# MOTOR AGE

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## MOTOR AGE

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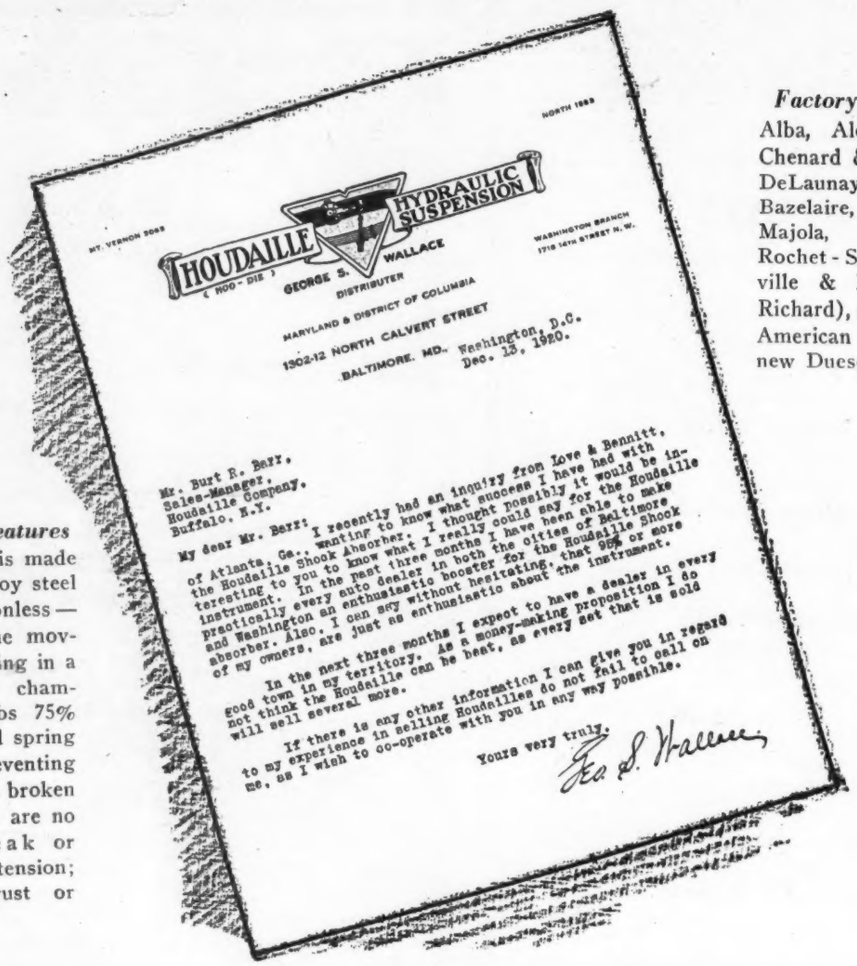

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# MOTOR AGE

# CHICAGO
## The CENTER of the MOTOR UNIVERSE
## Jan. 29-Feb. 5

ALL that the automobile industry has to offer for 1921 will be brought together under one roof for presentation to the American public at the twenty-first annual passenger car show in Chicago, January 29 to February 5. Like the New York show, Chicago's annual motor exhibit affords the best possible chance for studying the makers' products. Here dealers and distributors can intermingle with the manufacturers to get first hand information. Service men and customers are brought face to face to discuss their common problems. In short, the national shows are of a great educational character. They are more than mere exhibitions. Especially is this true this year when we have gone from a buyer's to a seller's market, and makers and dealers realize that to stay in business they must first, build their product right and, second, they must merchandise and service it properly.

# The SECOND CHAPTER

***New York Show Opened Way to Break Buyers' Strike —Chicago Looked Forward to with Big Expectations on the Part of the Makers—Three Weeks Closer to the Opening of the Buying Season—National Shows Indicate Trend Toward Better Maintenance***

WHEN the doors are thrown open on the twenty-first annual Chicago show Saturday, January twenty-ninth, there will be unfolded to the automotive industry the second great chapter in the trend on the part of the public to go back to buying cars.

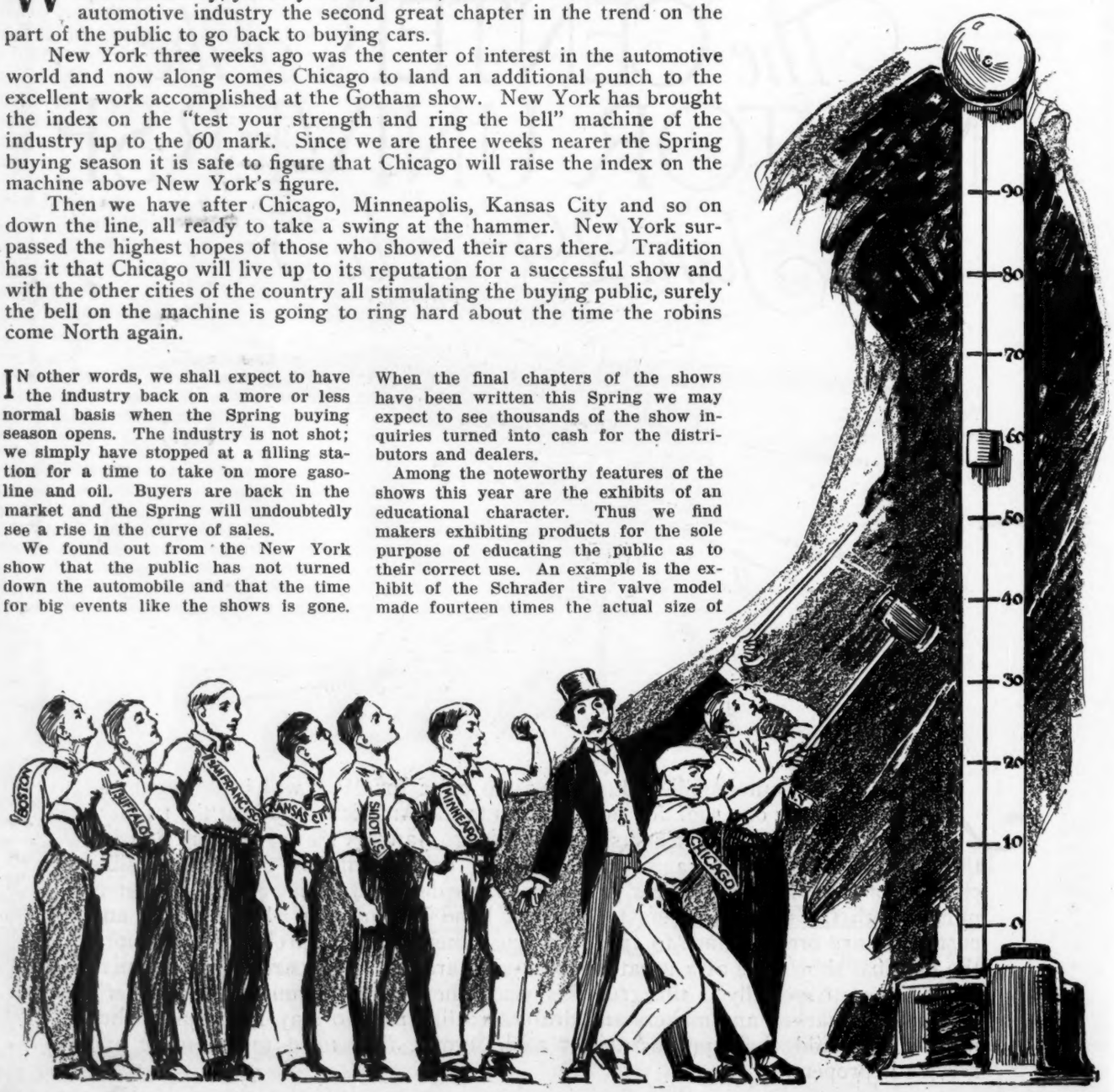
New York three weeks ago was the center of interest in the automotive world and now along comes Chicago to land an additional punch to the excellent work accomplished at the Gotham show. New York has brought the index on the "test your strength and ring the bell" machine of the industry up to the 60 mark. Since we are three weeks nearer the Spring buying season it is safe to figure that Chicago will raise the index on the machine above New York's figure.

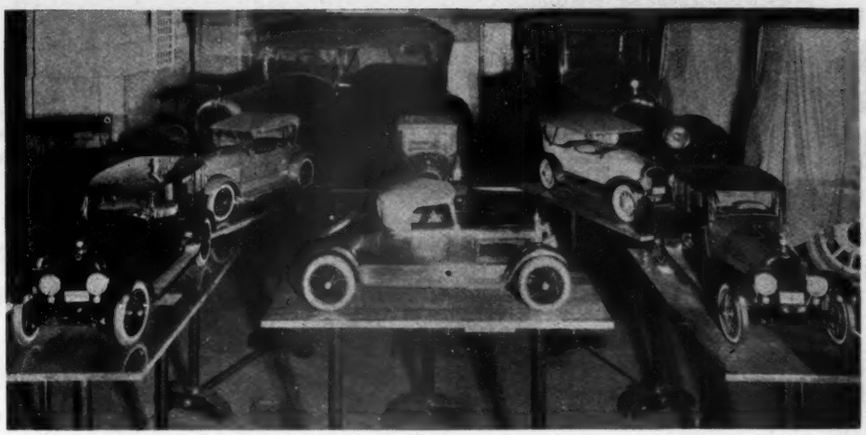
Then we have after Chicago, Minneapolis, Kansas City and so on down the line, all ready to take a swing at the hammer. New York surpassed the highest hopes of those who showed their cars there. Tradition has it that Chicago will live up to its reputation for a successful show and with the other cities of the country all stimulating the buying public, surely the bell on the machine is going to ring hard about the time the robins come North again.

IN other words, we shall expect to have the industry back on a more or less normal basis when the Spring buying season opens. The industry is not shot; we simply have stopped at a filling station for a time to take on more gasoline and oil. Buyers are back in the market and the Spring will undoubtedly see a rise in the curve of sales.

We found out from the New York show that the public has not turned down the automobile and that the time for big events like the shows is gone. When the final chapters of the shows have been written this Spring we may expect to see thousands of the show inquiries turned into cash for the distributors and dealers.

Among the noteworthy features of the shows this year are the exhibits of an educational character. Thus we find makers exhibiting products for the sole purpose of educating the public as to their correct use. An example is the exhibit of the Schrader tire valve model made fourteen times the actual size of





## *Marmon Is at the Shows Again This Year with a Novel Exhibit*

How the Marmon company is working the shows this year. Quarter size models of the company's complete line of cars have been made up for show purposes. This makes it possible for prospective customers to look over the entire line and relieves the company of having to display the life size models

the valve in order that users and others might see more readily the necessity of keeping in position the valve cap. Many do not understand the delicate construction of the tire valve so the maker in order to have his product function has seen fit to aptly demonstrate at the shows.

The shows look brighter this year than formerly. That is, the cars are finished in brighter colors. There is a far greater choice of color on the part of the customer. Many makers who used to furnish their cars in black, blue-black, etc., now have standing alongside the blacks on their standard lists, light blue, green, maroon or yellow models. This may be due to the fact that we once more are able to get the necessary pigments from foreign countries and also to the fact that the makers realize the desire for owners to be a little different from their next door neighbor.

There is no expectation on the part of the makers that business will boom the first quarter of the year. The buyer's strike is being gradually broken, to be sure, but it will take a little time to run on a normal basis. As a matter of fact most makers intimate they will be satisfied if they do as much business in the first half of 1921 as they did in the last six months of 1920. But by April 1 makers will begin to look forward to a resumption of business on a normal basis.

The shows given at this season of the year all over the country, and especially the big shows like New York and Chicago afford the best possible opportunity to review the industry as a whole. In the shows we bring together all that the industry offers. They offer a perspective view that cannot otherwise be obtained.

We are able to make certain deductions from the shows which indicate the general trends. Thus, if the bodies on the year's cars are going to be featured by bright colors, we find out this fact at the show. If a certain type of wheel is gaining preference it is indicated on the different chassis models at the shows.

This year we cannot help but notice that service and maintenance has come in for a vast amount of attention on the part of the makers. Last year there was much evidence at the shows that the makers had seen the hand writing on the walls and were taking up the question of service as never before.

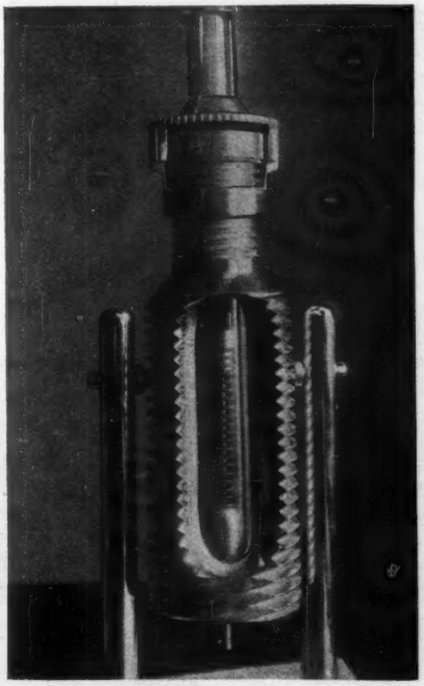
We must not expect to see innovations at the shows as we did in former years. The modern motor car is built along lines pretty generally accepted by all. The battle of the cylinders is not raging so furiously as it did at former shows; the matter of gearset is pretty well settled, basically speaking, although we can look for improvements in gear shifting methods; all cars have starting motors now and so it is possible to go on and trace through the development.

Those who saw the New York show were impressed by the fact that we are at the threshold now of the period of maintenance. Early in the history of the industry the makers found out what was wanted and we had then the period of engineering and invention. Later on we developed the product and went through the production and development period around about 1912 to 1920. Nineteen hundred and twenty-one is going to be the beginning of the service period. Quantity production soon taught us that with cars going everywhere the question of looking after those cars each year was becoming a greater problem.

Therefore, we have reached the point in the industry's progress where the makers are giving the service problem greater thought and those who looked over the cars at New York could not help realize this fact. The same cars will be in Chicago.

In former years the maker's chief thought was in getting out cars and he left it solely up to the dealer's service department to get along as well as it could in caring for the product. Most dealers had to evolve repair shop methods of their own in order to speed up service, but this is largely history now. These are changing times.

## *An Educational Exhibit*



Many of the exhibits at the shows this year are of an educational character. Here is shown the large model of the Schrader tire valve by which the company hopes to educate the driving public on the necessity of keeping the valve cap in place. No one would drive without a cap on the gasoline tank, so why let water and dirt get into the tire valve?

### MAKERS EVOLVING SERVICE METHODS

The makers not only are working towards getting simpler construction and more accessible units but are evolving service methods in the factory in order to hand them down to the dealer establishments.

Salesmen at the shows are using much of this easier maintenance feature as a sales talk. The public which now patronizes the shows is not the same public we had a few years ago. The modern automobile has become an institution with them and they know pretty well what they want to buy.

It no longer is necessary for the salesmen to devote so much of their time to expounding the merits of a six-cylinder engine or a four-cylinder engine, or of a selective type of transmission over a progressive type. These are things of the past. A good many of the people that go to the automobile shows have been drivers of cars for years and need not be sold so much on the engineering features. What they are after is how much it is going to cost to keep up this or that automobile. In other words maintenance is the prime consideration. It is a word that is going to be used a great deal at the shows all over the country.

# Service Comes

***We Have Come to That Stage in the Have Prime Consideration — One of mobile Industry Will Be Checked with Much Useless Time Spent on Work —Time the Most Valuable***

*By B. M. IKERT*

THIS is going to be the year for the service man. The little mechanic in overalls of yesterday who used to be looked upon as a necessary evil around the institution where automobiles were sold and supposed to be serviced suddenly has grown to large porportions. He still may be actively mixed up in the greasing and adjusting of cars, but this work is only incidental to his real job.

This is going to be the year of the service man because he himself has realized what a potent factor he is in the dealer's business. The dealer together with his salesmen instead of cussing the service man now realizes that repeat orders—his next year's business—are largely dependent upon how well he co-operates with the service department to make his customers satisfied with the treatment they get.

The factories are giving the service question the upper hand these days. Why? Because the manufacturer who spends millions of dollars to build a wonderful machine like an automobile must spend some more money, time and energy to see that his product remains in substantially the same shape as when it left the factory. After all it is not the automobile he sells, but transportation, and if the automobile does not stay in shape for affording that transportation, the maker's efforts are nullified.

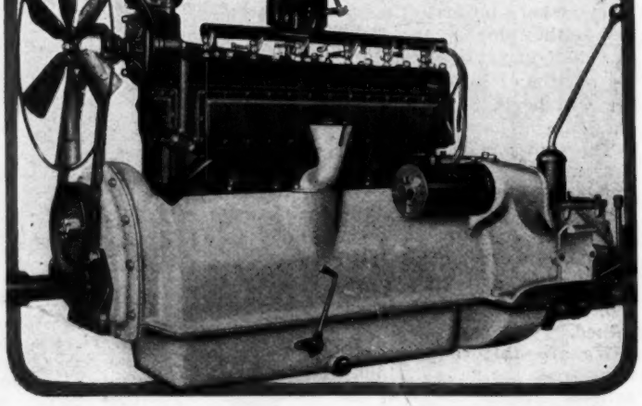
During the New York show two weeks ago it was common for factory officials to sit in council and discuss their common service problems. At the show itself one could hear on all sides the question of service and maintenance discussed. In former shows novelties were the things which the buying public looked for and generally found, because makers at that time did not know just what the public wanted. Each maker tried to outdo the other with something or other on his car that often approaced the ridiculous stage.

In the last few years when cars could not be made as fast as they could be sold, it largely was a case of "take it or leave it." You went into the shows and the salesmen stood there with folded arms and likely as not snapped out the fact to you that you could not get deliveries on the car, so why should he bother to tell you about it. Look it over yourself.

But now we have come right smack into the service question. There cannot be any radical changes in automobiles as a whole for some time. All we can look for are refinements or a rearrangement of what already exists. But we can think of ways and means in which to make it easier to keep our cars in repair and not make a customer have to pay several dollars in time on a fifty cent repair.

One of the best things the service men of this country did was to organize their automotive service associations of which there are now about a dozen in the country. We have only begun to realize what a big thing service really is. Instead of the division of sales and service being something like 80 per cent sales and 20 per cent service, the wind is going to change its course and blow 80 per cent service and 20 per cent sales. All of which simply means that the automobile dealer who expects to get by

***Accessible Engines Mean***



**An example of what can be done to help the service man in the way of making engines accessible. In the Packard engine the units are on top and none interferes with or is driven through another unit**

# Into Its Own

***Industry When Service Is Going to the Great Economic Losses in the Auto- More Thought Given to Accessibility— Which the Designer Can Make Easier Commodity in Making Repairs***

in the next year or so must devote greater energy to his service than he ever has before. He must have his sales department, of course, but a large part of his sales are going to be made on the strength of his service.

While service always will be largely a dealer's proposition the dealer alone cannot be looked to to work out the many problems. The factory and the parts makers must co-ordinate their efforts with those of the dealer. Many an inferior car has gotten by because some dealer knew how to render service on it although he did not get an ounce of co-operation from the factory that built the car.

Today it is common to get expressions from dealers on certain car changes before they are made. Why? Because the maker knows that the dealer has a good many things up his sleeve learned from bitter experience with customers. We may look for the time when the service manager of the factory must first put his O. K. on a design before it is adopted.

Last year we saw the maintenance signboards at the shows. There was enough to be seen then to realize that maintenance had got in its entering wedge. Often it appeared in disguise and you had to dig it out. What often were termed as refinements in the chassis really were a simplification of it, which is simply another way of getting easier maintenance. This is the most valuable commodity we have to deal with in motor car service and simplification of the chassis means cutting down the time element of repairs, so long sought for by dealers and car owners alike.

## *Better Maintenance*

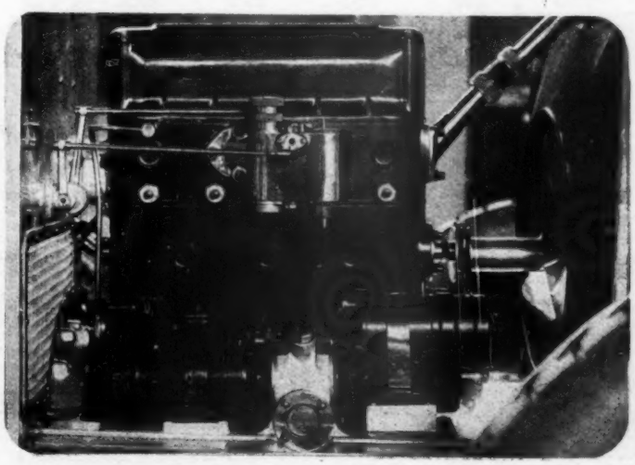
But this year the makers are making no bones about it and come right out and say this or that has been done so it could be gotten at easier by the service department men. There are still a lot of makers who have to learn a little more about this service thing before their cars are what you would call serviceable. One shouldn't be obliged to disconnect a multitude of brake levers, etc., to take out a storage battery. Nor should a mechanic have to remove half a dozen spark and throttle levers, air pipe to carbureter, choke control, distributer and what not to be able to get at valve adjustments with a couple of end wrenches. It can be done, because there are many instances to prove it.

As a general thing the cars of 1921 are easier to service than those of former years. While the actual job of making repairs remains about the same as formerly, those jobs have been made easier to get at, which really is what the service man has been after all these years.

Service has not only been improved in the new models brought out this year but in the current models, and while some of these changes for the betterment of service do not stick out in a glaring manner, they are there just the same.

Easier to serve as a term applied to cars does not only mean necessarily that it is going to be an easier job than formerly to get at a certain part, but means also that the maker has so built his car that certain service work is eliminated.

Along with the development of the mechanical side of service there has come a better understanding on the part of the dealer as to what the executive side of service should be. It is one thing to do the actual repair work on an automobile, but a vastly different proposition to get properly organized to carry on such work so that customer and dealer benefit alike. Service has become a commodity and in the better class of service stations is sold over the counter, literally speaking.



Europe has shown what is possible in accessibility. This is the Fonck engine, noted for its clean-cut and compact design which leaves enough "daylight" around the parts so they can be easily reached

# 1921 CAR DESIGNS INDICATE EASIER MAINTENANCE

## *While Engineering and Production Problems Have Had Upper Hand in Our Factories the Time is Now Here When the Serviceability of the Car Will Receive a Major Part on the Drawing Board of the Designer*

*By J. E. SCHIPPER*

WHATEVER else the automobile shows may do, they certainly afford an opportunity for studying the improvements made during the year, which is offered in no other way. At this time the cars are brought together and placed literally side by side for the inspection of those interested. The owner can see them from his point of view, the engineer from his and those interested in the maintenance and upkeep of the vehicles are afforded an opportunity to see what has been done to make it possible with decreased effort to keep the car continuously on the road.

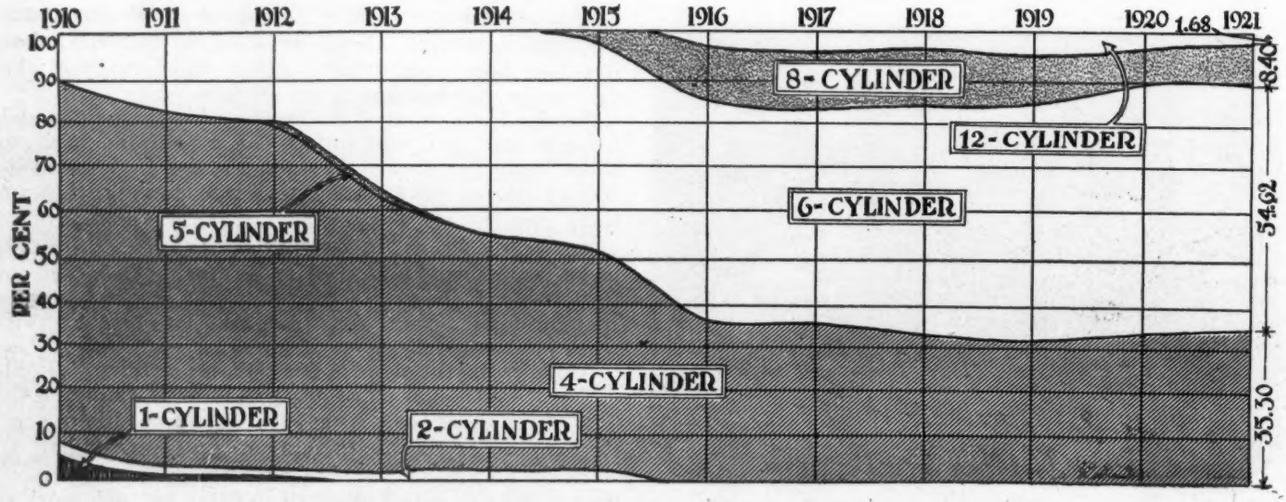
While there has been a gradual improvement in the accessibility features of cars for the past five years and while this year is no exception to the rule, it is still evident that additional attention should be focused on this point. It has now become the general practice in automobile manufacture to call the production manager into consultation before manufacture of a new design is started. It is good business to do this, but the models at the show taken generally indicate that it would also be of marked advantage to also call the service manager into consultation before the design is approved.

In other words, the engineering and production problems have been foremost in consideration in design of our automobiles. This is probably as it should be, but the time has now come when another step should be taken and maintenance given its full weight. In some of the new designs this year, however, there have been some real improvments along this line. The new Packard single six was designed specifically as an owners' car; that is, a car to be driven and cared for by the owner and maintenance has been given considerable attention. The adjustment points are easy to reach and the adjustments readily made. This has been accomplished largely by making the engine accessories higher than usual, in fact, they are placed on the top of the engine rather than at the side. The ignition unit is placed centrally on top of the engine, and the pump, together with the fan and thermostat, form a unit also located above the level of the cylinder head.

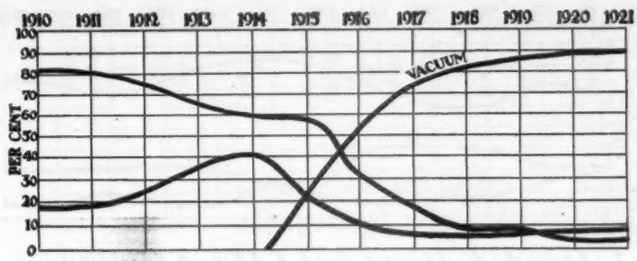
Another one of the new cars, the Lexington, also shows marked accessibility for the adjustment of the engine accessories. In this car, the water pump is placed at the rear end of the engine and the drive is through a long shaft with two flexible couplings, permitting a swing-out adjustment on the generator without in any way interfering with the operation of the water pump, since the two flexible couplings are enough to provide for the misalignments due to adjustment.

On another new car, the DuPont, made in Wilmington, Delaware, the fan pulley is behind the gearcase and the water pump in front of the casing on the same

### *The Battle of the Cylinders Still Favors the Six, Followed by the Four*

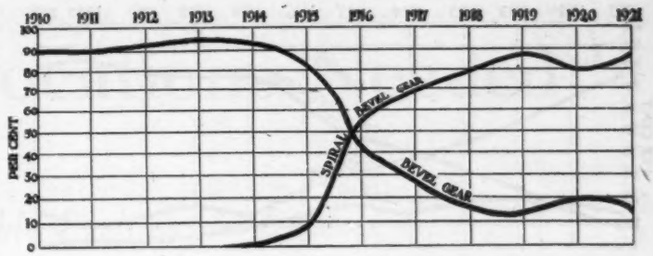



An analysis of trend in cylinder design shows that six-cylinder engines are still in the majority but it also shows that four-cylinder engines are on the increase. The four-cylinder curve is showing a steady increase which is made partly at the expense of the eight and twelve cylinder engine cars




## *Vacuum Popular Type of Fuel Feed*

Fuel feed seems to be resolved on vacuum with the other two forms, gravity and pressure, just about holding their few percent. A strong supporter of the pressure feed has this year adopted the vacuum feed for newly announced models, still continuing pressure feed on other models




## *Spiral Wins Over Bevel Gear Drive*

Silence is more and more the ruling demand and as a result spiral bevel gears are finding greater and greater application in the rear axles of our cars

shaft, giving a very accessible layout and one which provides a simple, balanced drive for both units. On this installation, the water inlet connection to the cylinder block is made at the front end, but a pipe extends to the jacket in the rear and as the outlet is also at the front, the water is compelled to flow through the entire length of the jacket. This is done for the purpose of securing good distribution of the cooling water and more reliable circulation.

A feature of importance from a maintenance standpoint can be observed on the Mitchell six-cylinder engine in the form of an eye-bolt in the cylinder head casting by which it can be easily removed if necessary. Practically everybody is now fitting lugs on the head casting so that this can be removed without damaging the gasket. Without these, it is necessary to pry the head loose with a cold chisel, the result being that the same gaskets can not often be used over again and hence the price of a new gasket is added to the cost of repair.

A very noticeable point about engine accessories is the practice of using a belt drive for the generator. While this has been criticized considerably by some engineers, others are very strongly in favor of it, particularly with the new forms of belts now on the market, which give a durable, silent and reliable drive. The new Oldsmobile eight has its generator mounted centrally in front and driven by belt, the fan being mounted on an extension of the armature shaft. This is similar to the construction used on the Nash.

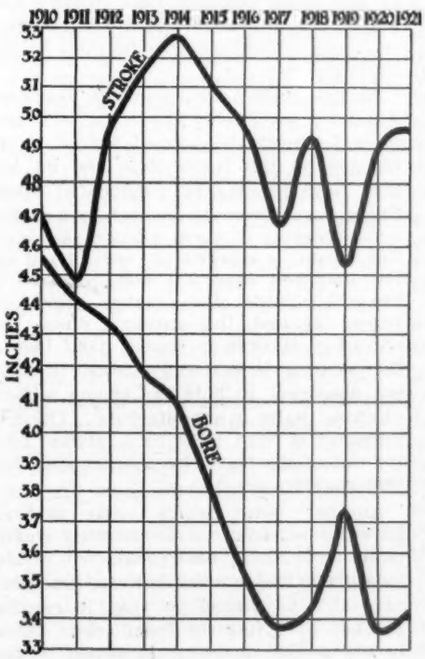
As far as the engines themselves are concerned, there is very little change from a maintenance angle in them. The fuel is handled better all along the line, the true facts regarding hot-spot now becoming more generally known, with the result that in the new cars the warming up period is considerably shorter and we can consequently look for less leakage of fuel past the rings and consequent longer life of cylinder walls and bearings.

Another very noticeable point is the increased use of full pressure feed. Without exception, the new cars this year have fitted this type of feed to their motors. Packard, Saxon, Lexington, the new line of Midwest engines, Lincoln, and the others which have been announced recently, both in the medium and high priced classes, are using drilled crankshafts of generous proportions with oil circulated under high pressure. This is contributing to bearing life in a way which will be reflected in greatly reduced maintenance on these parts.

There is another marked tendency which is important from a service angle and this is the casting of the babbitt lining directly in the connecting rod. Marmon has adopted this process and the Marmon service stations are equipped with rods already babbitted, which are put in in place of the rod with the worn bearing. Thus, the entire rod is changed and the rod taken from the car is returned to the factory for re-babbitting. The result of this policy is to eliminate the personal equation in preparation of these bearings and at the same time, to give the owner quick and efficient service. The cost is no greater and the desired reliability far more easily attained.

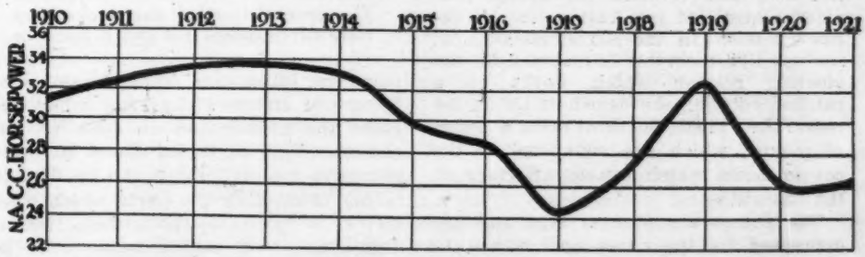
The use of pressure feed lubrication has permitted the use of higher linear velocities of the crankshaft. In other words, it is now permissible to use larger diameter shafts, with the result that vibration has been reduced and the engine smoother, giving longer life. As far as valve mechanism is concerned, be-

## *How the Bore and Stroke Have Shifted*

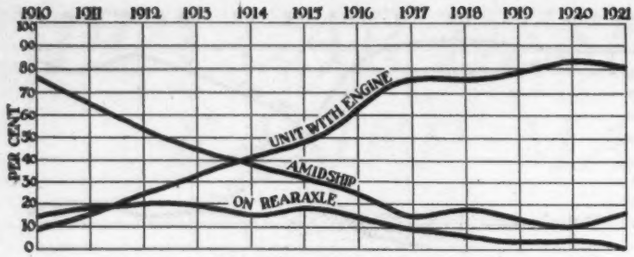



Because of the widely fluctuating quality of these curves, it is not possible to draw any definite conclusions from year to year. Rather the opinion must be based on the mean value of the curve, which when interpreted shows that the stroke is steadily on the decrease as is the bore. In other words, engine size is being reduced as new ways are being found to produce as much or more power with smaller piston displacements

## *The N. A. C. C. Horsepower Shows a Slight Increase*

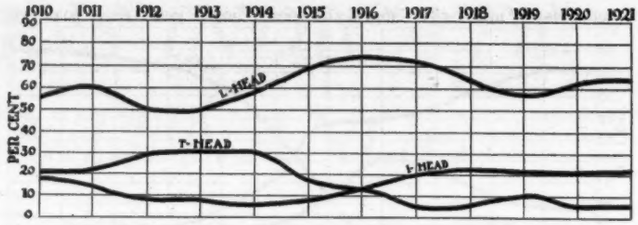



Here again the year to year fluctuation of horsepower can not be used as the criterion for an opinion as to the trend, but when the mean value of the curve is consulted for a period of years,, it is seen that horsepowers are on the decrease




## *Relative Positions of the Gearset Location*

Apparently the makers of cars having the three differently located transmissions are prepared to fight it out on the lines as shown above. No one seems to be gaining very much one way or the other. It is undoubtedly true that the makers of standard parts have largely influenced the car maker's choice by preparing standard parts that could be assembled in unit, for it is to be noted in every case that car makers using other than unit power transmission make their on parts




## *L-Head, T-Head and I-Head Cylinders of 1921 Cars*

L-head, I-head and T-head engines have held approximately their same relative positions for a number of years. However, as better overhead valve arrangements are being rapidly developed the noise factor, which is the only objection, is removed and we find the I-head cylinder gaining strongly in favor; and no doubt a few years time will see the I-head engine ranking in popularity with the L-head

yond the shifting around in front drive practice, there is little new. From a maintenance standpoint, the accessibility in the Packard engine is deserving of favorable comment, as particularly noticed in the practice of attaching the valve lifter fingers in groups to the side plates in the crankcase.

The new Lexington car with the Ansted engine has a very interesting valve mechanism, giving a variable ratio in the rocker arm so that the lift is automatically retarded and accelerated to give a quiet seating and, at the same time, provide a lift of nearly ½ in. On the Holmes car, the rather complicated valve action of a year ago has been abandoned and a plain rocker arm type utilized instead.

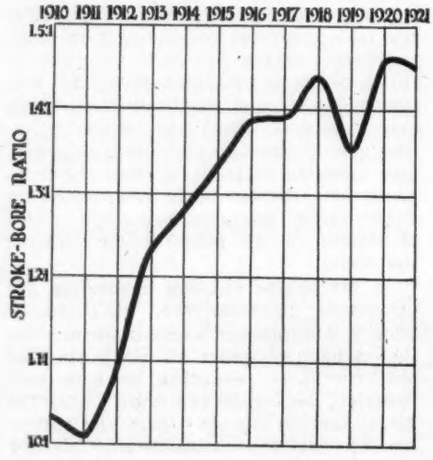
Regarding the chassis generally, probably the outstanding feature is the care taken in improving chassis lubrication. There is not a manufacturer who does not realize that vigorous steps are necessary on this part of chassis design to bring it up to a par with the other parts of the car. The result is that on practically every chassis some improvement in this respect is noticeable. The Alemite system, of course, leads in popularity and is found on about half of the makes shown.

This year, the Saxon car has come out with a new system which has been described in MOTOR AGE, this being the Romon automatic chassis lubricator as standard equipment. As has been mentioned in these columns, this system provides centralized lubrication for the entire chassis. In the Saxon installation, the box-like reservoir is mounted on the steering column which works on a ratchet, rotating the camshaft inside the reservoir. These, in turn, drive a series of pumps, which are connected to the copper leads which run to all parts of the chassis.

The pumps are plunger type and are depressed by the cams and return to normal position by means of springs. The oil is forced against a ball check in the intake and through a delivery passage into oil lines leading to the various points of the chassis which require lubrication. Ball checks are located at these points also so that the oil forced remains there and remains in the line between the reservoir and the bearing, insuring immediate movement of oil on operation of the pump.

The various steering, springs and axle parts are taken care of by a number of fittings of standard character which replace the grease and oil cups on the chassis. The oil is led direct to these points by copper tubing and by flexible tubing connecting the parts which have motion relative to the chassis frame. There are also swivel connections at necessary points so that none of the tubing is under stress, due to the oscillation of the springs, steering gear, etc.

## *Standing of the Stroke-Bore Ratio*




As the ratio of bore to stroke increases, the expansion of the gases is carried on to further completion. The general trend of the stroke bore ratio curve shows that this is the case

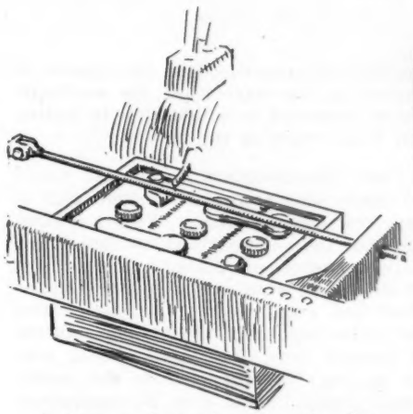
One of the greatest lines of improvement in the chassis is the incorporation of anti-rattle features in the brake mechanism and in the shackles. In the brake linkage there has been a noticeable growth in the use of tension springs which keep the linkage continually taut so that there is no chance of rattle. On the Oakland car, these little coil springs are very ingeniously mounted under the cross-member which supports the brake equalizer hangers. The springs are smaller and more compact than usually employed for this work and are hung upon retainers which are free to rock in the cross-member.

In preventing rattles in the shackles, which are noticeably the worst offenders in this respect, the use of the adjustble shackle on the Locomobile and on the new Navarre may be commented upon. These have a take-up secured by a clamp which permits of compensation for wear. The spring is allowed to center itself on the bolt and then the bolt retainer is brought against the washer which is forced against the spring. Since the spring is allowed to center itself before the bushing is screwed against it, it is not necessary to hold the spring widths to close limits in manufacture. The adjustment is held tight by a clamp bolt, the end of the frame horn being split for this purpose.

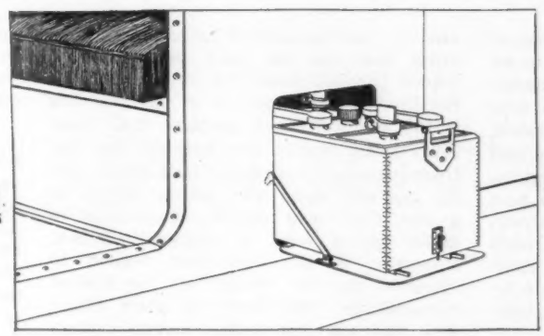
Another point which some makers have studied from an accessibility standpoint and others have neglected is the location of the storage battery. On most cars this is placed so that it can be reached by lifting the front seat. There is a growing tendency, however, to put the battery where it can be reached by lifting a small trap door in the floor boards. An interesting point in connection with battery installations is the Briscoe method of mounting the battery in a frame cross member, thus doing away with the necessity for a separate cradle. The question of locating the storage battery is discussed at length in another article, entitled "Better Battery Locations Needed," printed on the following page.

# Better Battery Locations Needed

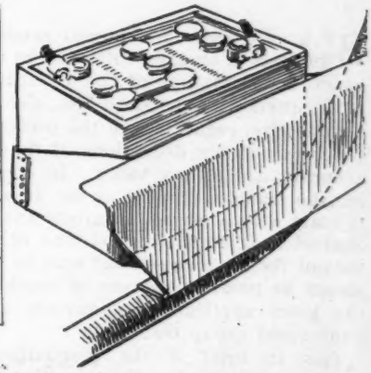
## *Rapid Deterioration of Cells Largely Due to Neglect Resulting from Inaccessible Positions in Chassis*



A battery located under the floorboards and further handicapped by having the brake rods placed directly over it, cannot help but be neglected



A suggested location for the battery, the advantages of which are, its accessibility, removed from exhaust heat and complete protection



With the exhaust pipe directly under the battery, the electrolyte is subject to rapid evaporation and cell deterioration results

THE storage battery today is stock equipment on every car made, but despite the universal use of the storage battery there is no standard or recommended practice as regards its location in the chassis. During warm weather every battery needs to be watered at least once a week and more if any great amount of driving is done. The essentiality of this service is comparable only to the addition of gasoline to the rear tank, oil to the engine and water to the radiator, provided the car is to give consistent satisfaction. The history of the automotive service business indelibly records that parts needing service but hidden from view or inaccessibly located are forgotten. The only exception to the rule we find occurs in circumstances where the designer of the car drives one of his own productions, and because of a sore or troubled conscience or whatever it is, he pays some attention to the parts out of the way.

The outstanding fact in regard to storage batteries today is that there is no standardization about them, neither their location in the chassis nor their size. For the sake of discussion let us consider the various positions in which batteries are located. We have in descending numbers of popularity:

1—Under front seat.
2—Under front floorboards.
3—Between splash apron and frame.
4—Under bonnet beside engine block.
5—On running board (obsolete).

The location under the front seat is obviously chosen because it troubles the manufacturer least to place it there. It is a simple matter for him to place the battery under the seat, for the seats are always placed on the car last and the hole under the seat may therefore be utilized with least conflict to the work of the assembly. From the view point of the service man and the car owner it is needless to say that the battery located under the seat does not permit of the simplest service work. No doubt the great majority of battery troubles can be attributed to the location of the battery under the seat, where it is not get-at-able.

The battery under the floorboard is in about the same predicament as the battery under the seat. It is generally necessary that the occupants get out of the car in order to remove the floorboards permitting access to the battery. It does seem that a neat trap door could be worked in with the floorboards which permit the service man to gain instant access to the battery but even such a development is slow in making its appearance. On several European cars a trap door has been fitted in with the floorboards. In these installations the door forms the top part of the battery compartment and thus excludes dirt.

On a very large number of cars made in this country the battery is located between the splash apron and the car frame. Generally the battery cells are placed end to end, making a long narrow battery which fits into this space. The location is good and it is noted that on these cars everything else is well engineered also. Placing the battery in this position is about as good a place as it is possible to find. The advantages are that tight fitting compartment surrounds the battery excluding dirt. No water from road can be splashed on the battery, and the cells are instantly accessible by removing a cover plate over the splash apron. Moreover the advantages of a short starting motor cable are not to be disregarded.

One other location has been used, but not very extensively, where the battery is placed under the engine bonnet. This makes a very accessible installation but from the angle of cell deterioration the position is not the best. A battery is a short lived creature at best, and the placing of additional handicaps on it such as heating it up is conducive to a further decrease in life.

Not conforming to our aesthetic sense but appealing to the service man's demands for accessibility is the battery located on the running board. The beauty of a simple straight-lined contour would certainly be marred by a battery box located on the running board, but our feelings in the matter are that the actions of one placing the battery on the running board, if neatly done, would be more defensible than the actions of another placing the battery under a floorboard, and so located that in order to remove the battery it becomes necessary to first lift out the front seat, then the floorboard and finally disconnect a brake rod.

Beside the disadvantages which are peculiar to some battery installations as mentioned above we have many other little objections arising, causing the service man a good deal of trouble. For

(*Concluded on page* 113)

# How to Use the Trouble Chart

## *Practically Any Misfunctioning of the Units of a Car Affecting Its Operation Can Be Located by Applying Certain Easily Understood Group Tests*

BY a systematic and logical scheme of analysis, a chemist will proceed to an exact determination of the constituents of an unknown substance. So, also does anyone else, regardless of the profession, proceed with his deductions, if time and accuracy are of any value. In diagnosing the troubles of a motor car, it is best to start with a method of group analysis, applied so that whole divisions of each part of the car's equipment may be eliminated as possible sources of trouble by the mere application of certain easily understood group tests.

This in brief is the foundation on which the **Motor Age Trouble Shooter,** a supplement to this issue, is constructed. The chart is concerned with principles of operation, not with individualities as they concern constructional features peculiar to each car. Every car regardless of its cylinder numbers, its wheelbase or any other consideration, is built around certain fundamental principles, and a clear conception of these principles arranged in a logical order will enable anyone to deduce or analyze any trouble, tracing it directly to its source. In the chart no attempt is made to explain the method of repair.

### METHOD USED TO DETERMINE TROUBLE LOCATION

To gain a comprehensive view of the chart it should be first borne in mind that all troubles are classified according to groups and the groups placed in order of the occurrence of the troubles. Thus we have the electrical group as Group 1. Group 2, we have chosen as belonging to the engine, which includes the lubrication system and the cooling system. The carburetion system is placed in Group 3 and the power transmission system is assigned to Group 4. The classification has been chosen after a careful study of the inquiries received by The Readers' Clearing House of MOTOR AGE.

All troubles are classified as having their genesis in the heavy line at the top from which the four groups are traced through to the line of operation at the bottom. In the diagnosis of trouble the first step is to apply the group analysis found at the head of each group. If after applying the group analysis, one finds that no results obtain, then that group may be eliminated from further consideration. But if any portion of the group test does not prove out satisfactorily then a further examination of that group must be made.

It is the purpose of the chart that every unit of the car which must operate in order that the car may move, can be traced through from the generic line to the line of operation. It is obvious that if the lights do not operate, their misfunctioning would not prevent the car from running. An engine may knock and the car still run. The writer knows of a car that was driven approximately 18,000 miles with a camshaft knock. However, if the generator ceased to function the car would not be stalled immediately, but three of four starts with the starting motor would deplete the battery sufficiently to render the ignition almost inoperative.

For the purpose of illustration in using the electrical group of the chart, let us assume that an owner has carelessly left the ignition switch on and as a result the resistance wire to the ignition coil has burned out. Then after repeated attempts by the owner to start the car he calls up the service station. The mechanic having the principle of the chart well in mind would first apply the group analysis. The battery test would probably be O.K. but the ignition wire from the coil to the center of the distributer would fail to show a spark.

The testor would then proceed to the ignition division of the chart and apply the specific ignition test as given at the head of the ignition division. A portable voltmeter when appled as directed will register at the consecutive points thus tracing the current along its path of travel. A full reading of the meter would be observed at every point until the voltmeter terminal was applied to the dead side of the coil resistance. Since this resistance is burned out the meter will register on one side of the resistance but not on the other, and consequently the trouble is easily and almost instantly located.

### TRACING A DIFFICULTY IN THE CARBURETOR GROUP

As an illustration of some other trouble, and the method of analyzing it, let us assume that the vacuum tank is not functioning properly due to very dirty gasoline that was not strained before admitting to the rear tank. Perhaps some sediment has become lodged on the vacuum valve either through a backfire of the engine or from the dirty gasoline or perhaps the float of the vacuum tank is not operating properly. The action of trouble of this kind will be noticed by a loading engine, and because of one's aptitude in assuming that the trouble is caused by the carbureter the mechanic would generally be a long time in finding out what really is the matter.

First, the electrical group test would be made which would consume only a very few minutes' time. We are assuming that the vacuum tank trouble is the only operation of difficulty on the car. Consequently nothing will be noted in the electrical group test. The engine test will come next and since nothing unusual is noticed here, the engine group may be passed. Coming next to the carbureter group it will first be determined that the rear tank has gasoline in it. Then the vacuum tank will be tested for presence of fuel. On testing this unit it is noticed that the drain cock at the bottom of the tank does not pass fuel when the valve is opened.

### PRINCIPLES OF OPERATION SHOULD BE KEPT IN MIND

However, on passing a small wire up through the drain cock the gasoline starts to run out. Evidently, the inference is that the fuel is dirty. For the time being this finding is merely kept in mind until the carbureter action has been investigated and it is found that no matter where the low speed screw of the carbureter is turned the engine still continues to operate on a rich mixture, which is noticed by the very pungent odor from the exhaust. The next step is to follow the lines of operation through the various units. The vacuum tank will naturally be suspected from what has gone before. Therefore, the first step in connection with the examination of this unit when followed as explained on the chart shows that when the vacuum line is disconnected and held closed, that the loading condition stops, thereby locating the trouble as in the tank.

In the two examples quoted, it has been noted that every operation is traced through in logical order beginning with the group and passing on down through the divisions of the group and then to the units of the division. The whole chart is an analytical method of making a diagnosis in group method. Anyone who will take the small amount of time necessary to master the principles of group analysis and elimination as shown on the chart, will be well repaid, for the secret of shooting motor car troubles rapidly and accurately will be found to be based on these principles.

### BATTERY ANALYSIS

Gravity should be high 1280 to 1300. Discharge under high discharge rate should register constant voltage on voltmeter. Age of battery gives a good insight to its probable condition. Badly corroded terminals give trouble in faulty connections to terminals, allowing lights and ignition to work but not starting motor. Terminal connection to ground should be tight.

### STARTING SWITCH

Voltmeter terminal applied to each side of starting switch terminals with other meter terminal to ground should register battery voltage and both meter terminals across terminals of starting switch during starting motor operation should show no reading.

## Ignition Group Analysis

With ignition switch on test voltage with one wire of meter on ground and other consecutively on live ignition lead from switch, junction block ignition terminal, and contact on coil for primary connection. If voltage is present at these various positions, separate high tension lead from coil to distributor and leave gap of ⅛ in. Turn engine over and note spark. If absent trouble is in coil resistance, coil primary, breaker, coil secondary or ground connections. If present here but difficulty still exists examine plugs and high tension leads.

### PRIMARY CIRCUIT COIL RESISTANCE

Neglecting ignition switch may burn out resistance unit on coil, leaving open circuit at this point. Apply voltmeter terminal to each side of resistance unit with other to ground and ignition switch on. Meter should indicate.

### COIL PRIMARY

Apply voltmeter to each side of coil primary, one to resistance unit side and other to timer side. If wires are applied to include coil resistance, meter should indicate full battery voltage, but if to exclude coil resistance about 3 to 4 volts. If open circuit exists in coil meter will read 0. Apply terminals of battery to coil primary connections, snapping one wire on and off and hold wire from secondary to common or ground connection. Presence of spark precludes trouble in coil. If not present examine connections and if clean, dry and tight, voltmeter drop test indicates O. K. examine secondary terminals and if apparently tight and coil still refuses to spark, it may be wet internally. Coil should be dried and if inoperative after this should be replaced with a new one.

### TIMER

Examine connections from coil to timer and if tight, clean and dry. investigate contact conditions. Points should be smooth and should make a surface contact. If connections seem tight and ground connection wire from timer to ground is making good connection, examine distributor, or secondary circuit. Any missing in operation which might be due to timer will be caused more probably by misadjustment of contacts which should be as follows:

Clearance on contacts for Delco, Remy, Wagner and Atwater-Kent 0.020 in. Westinghouse and Connecticut 0.010 in.

### SECONDARY CIRCUIT

Test for spark at lead connection to distributor. Distributor block should be firmly in place and if spring is used on contact see that pressure is sufficient and that spring is not broken. Wipe out inside of distributor housing with cloth dampened with light oil. All connections to high tension wires at distributor should be fairly good but not necessarily soldered. Missing may sometimes be traced to small cracks in distributor head. Spark plugs should be adjusted to .030 in. clearance at gaps. If doubt exists as to firing of any one cylinder insert new plug, at least temporarily, as this will eliminate possibilities in this section. High tension leads should all have good insulation and doubly so where covered with metal housings. In no case should center distributor wire follow others in same metal housing. If spark at timer points is particularly noticeable test condenser which may be in distributor housing but if in coil, new coil will be needed.

### MAGNETO IGNITION ANALYSIS

With any make of magneto, suspected trouble should be first traced to sediment in the breaker box. The breaker box should be clean, the points well surfaced, that is, points should not be pitted and the clearance should be proper which cannot be here recommended because of the variance found in different types and makes. If in doubt, though, set the clearance to about the same as in a battery system. High tension leads should be well insulated and frayed ends of the standard wires should not be in evidence.

Group

### BATTERY:

Test battery voltage under discharge, evidence: steady reading 6 volts approx. Specific gravity 1.280.

### IGNITION:

Ignition switch on, hold high tension feed wire to distributor ⅛ in. from coil terminal and turn en-

### AM

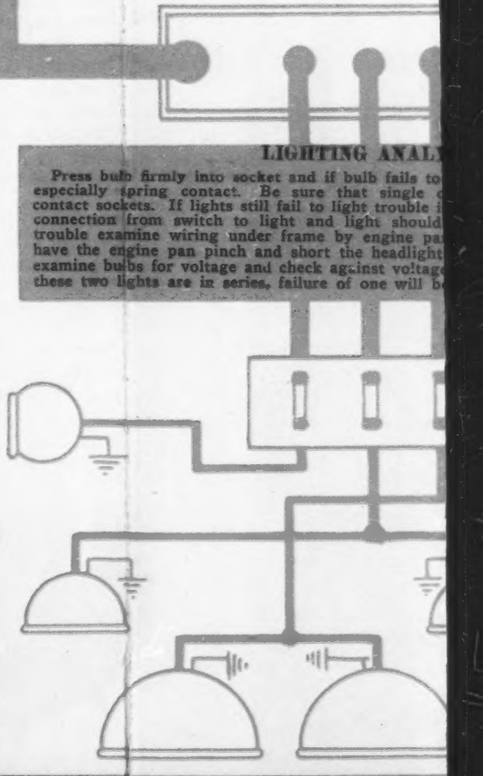
If ammeter does meter with another th read all of charge or is not in meter. Exa

### SWITCH

If switch and controlled units beyond trouble test voltage at live lead to switch v at switch connection and other to ground to various units and touch meter termin tributing connections of switch with gro Failure of meter to register indicates tr switch on examine all lights. Make sur ing in positive circuit.

### LIGHTING ANAL

Press bulb firmly into socket and if bulb fails to especially spring contact. Be sure that single contact sockets. If lights still fail to light trouble i connection from switch to light and light should trouble examine wiring under frame by engine pa have the engine pan pinch and short the headlight examine bulbs for voltage and check against voltag these two lights are in series, failure of one will b



LINE OF OPERAT

# THE MOTO

## 1

## Group Analysis for Electrical System

Y:

ttery voltage under dis-
evidence: steady reading
approx. Specific gravity

N:

switch on, hold high ten-
wire to distributor ⅛ in.
l terminal and turn en-

gine over, evidence: spark, which should also be apparent at plugs. If ignition timing is in doubt set piston No. 1 on compression either by priming cup or from flywheel marks, with spark wire separated from plug of cylinder No. 1, ⅛ in. Spark will occur when piston reaches top dead center with spark lever in center position.

STARTING MOTOR:
Operation should be satisfactory if battery test is O. K.

GENERATOR:
Test by pressing contact points of cut-out together with engine still. Dash ammeter should show discharge approximately 8 amperes.

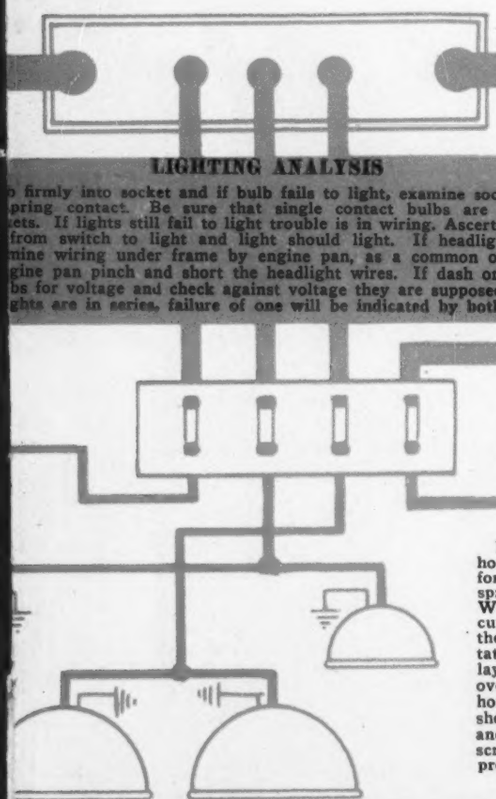
LIGHTS:
Try switch at positions and note light condition.

### AMMETER

If ammeter does not register bridge across meter with another that does. New meter should read all of charge or half, but if nothing trouble is not in meter. Examine meter connections.

### SWITCH

ch and controlled units beyond switch are in apparent
est voltage at live lead to switch with one meter terminal
connection and other to ground. Next turn switch on
s units and touch meter terminal to outgoing or dis-
connections of switch with ground wire still in place.
f meter to register indicates trouble in switch. With
n examine all lights. Make sure bulb is good by test-
sitive circuit.



### LIGHTING ANALYSIS

firmly into socket and if bulb fails to light, examine socket connection, pring contact. Be sure that single contact bulbs are used in single ets. If lights still fail to light trouble is in wiring. Ascertain by bridging from switch to light and light should light. If headlights are in this mine wiring under frame by engine pan, as a common occurrence is to gine pan pinch and short the headlight wires. If dash or tail light fails bs for voltage and check against voltage they are supposed to run on. If ghts are in series, failure of one will be indicated by both.

### HORN ANALYSIS

If horn fails to operate, examine horn connection on steering column for loose connections. Be sure that spring contact in switch operates. Wires to horn should be tight as current is rather heavy. Examine the brushes. Next clean commutator or horn as very often a slight layer of grease will work itself over the surface and cause the horn to be inoperative. If meter shows presence of current at horn and horn still is inoperative loosen screw adjustment which controls pressure of cam against diaphram.

## Generator Group Analysis

Start engine and operate at speed equivalent to car
M. P. H. Turn on all lights, then loosen one battery t
disconnect. If lights go out or burn dimly, trouble is i
circuit. Keep circuit open only short while. Do not as
this circuit fails to generate that the trouble is in the
Trace the generator circuit down from the live connec
charge side of the ammeter to the junction block to th
the generator. If the wires from the ammeter to the ju
to the cut-out and to the generator test O. K. then test
and follow with generator analysis.

### CUT OUT ANALYSIS

Sticking open or closed contacts, or improper adjustme
shorted open circuit, or high resistance at contacts, v
circuited. Make sure contacts operating above cut-in spe
reading. A y voltmeter to ground terminal and gener
of cut-out. eading should be about 7 volts with eng
at cut-in speed. Examine points making sure full su
is made. Spring may be too loose or too tight.

### GENERATOR ANALYSIS

If cut-out is inoperative connect around it with a jumper
ammeter is inoperative insert test meter in series with genera
wire. Reading should be about 8 amperes if normal. If only
amperes armature circuit is open. If appreciably in excess o
peres armature circuit is partly shorted. Examine in followin

### BRUSHES

If worn too short, renew. Brush surface should conform to commutator. Pigtail connections may be loose and the springs may be weak.

### COMMUTATOR SURFACE

Surface should be clean. Mica should be lower than segments. Examine trailing side of segment for pitting, which indicates sparking. Charge rate should be about 1 ampere per battery plate. Too high rate will cause sparking.

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### REGULATOR ANALYSIS

Regulators may sometimes cause the generator circuit to b
ative. If the generator regulation is of the the third brush
brush may be worn down or its connection may be loose.
If the generator is of the bucking field type similar to that
on the Westinghouse system the probabilities of trouble
everything except the vibrators, their contacts and connecti
If the regulation is of the differential field type similar to
in Auto-lite systems there is very little that can be done t
conditions of charge rates. With systems of this type the
cedure is to see that connections are tight and the commutato
clean with mica low.

## OF OPERATION

# TOR AGE TROUBLE SHOOT

PREPARED BY ROY E. BERG

**A diagrammatic representation of motor car troubles classified according to magnitude of occurrence, presented in a form to render the tracing of troubles easy by a systematic method of group analysis and elimination.**

## lysis

t to car speed of 20
attery terminal and
uble is in generator
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s in the generator.
e connection of the
ck to the cut-out to
o the junction block
hen test the cut-out

adjustment, grounded
ontacts, winding open
ut-in speed. If other-
nd generator terminal
with engine operating
e full surface contact

a jumper and if
ith generator lead
If only about 2
excess of 8 am-
following order:

### CONNEC-TIONS

If trouble from previous analysis appears to be in armature examine coil wire connections to segments by prying on them lightly. Examine all leads for looseness.

rcuit to be inoper-
rd brush type the
loose.
r to that employed
trouble preclude
connections.
milar to that used
e done to change
ype the best pro-
ommutator surface

## Starting Motor Analysis

Apply one wire of meter to ground and other to live starting motor terminal. Press on starting switch, note reading and motor operation. Meter should show approximately 6 volts and motor should turn at normal speed. If voltage is low trouble is probably not in starting motor but if voltage is good and motor turns slow some detail covered below must be the cause. Examine Bendix drive. Grease and dust may cause pinion to lock in mesh with fly wheel thus locking car. Spring may be weak.

### COMMUTATOR

High mica, loose or pitted segments, see windings.

### WINDING

Millivoltmeter test on commutator should indicate even voltage drop through all armature coils.

### FIELD CIRCUIT

Field windings are in series with armature. Open circuit will stop motor. Field coils shorted out slows motor down under load and speeds it up when running free. Pole pieces may be loose, all connections must be more carefully made than on other low current wires.

### BRUSHES

Examine first pigtail connections from brush to holder. Brush surface should be smooth and conform to commutator surface. If brushes are worn too short replace. Spring tension should be enough to insure good brush contact.

## Lubrication

Gage should register pressure according to system with low pressure approximately 5 lb. at 1000 r. p. m. and high pressure system with hollow crankshaft approximately 20 lb. (These pressures are not exact but will do for average settings in case of emergency).

### OILING SYSTEM

If gage fails to register, the oil line from the pump to gage should be disconnected and oil stream examined. No oil will indicate pump trouble, otherwise gage. High pressure systems rarely become clogged as pressure will mount upwards until lines are cleared. Camshaft driven plunger systems should be examined at ball check valves. Spring on plunger may be at fault.

### PUMP EXAMINATION

When water fails to gush from pump outlet in positively forced cooling systems, which may be determined by examining engine outlet connection at radiator, there is something wrong with the impellor of the pump or else pump is clogged. Examination of the pump drive shaft will of course tell whether or not this member is being driven. If it is and the water does not flow rapidly into the radiator the trouble is with the impellor. If trouble is experienced in winter time the impellor may be broken with the vanes sheared off. A badly corroded impellor will sometimes break and thus fail to pump water. If the water pump is belt driven the belt will want to be given extra care to see that no slippage develops. Thermo-syphon systems having no pumps will not be troubled with any of the above. Sediment in the water mains might be a possible source of trouble in thermo-syphon systems, inasmuch as hardly no pressure exists to make the water flow.

## Cooling Group

Water temperature should register about 180 deg. on all cars. With all connections tight and no leaks in system, heating will not result from insufficient water, and examination should be confined to other units, viz: valve timing, ignition timing, carbonized engine.

### RADIATOR UNIT

Radiator trouble is generally occasioned by leakage. Correcting by pouring in preparation should be temporary. Hot and cool spots in the radiator is a source of trouble which arises from clogged cell passages. These may be felt by running one's hand over the radiator after the engine has been running a while. General depreciation of radiator cooling is caused by accumulations of scale in cells.

### FAN

Examine first fan belt. Squeaks and noise are generally due to lack of oil or grease. A hard running bearing will cause the fan belt to slip and wear out very quickly. If blades of fan have become bent cooling will not be as effective and a consequent rise of operating temperature will result. If fan belt adjustment has reached its limit, belt may need to be cut and relaced or else replaced with a new belt. If fan belt drives power tire pump, it is good policy to tighten belt when operating pump and loosen when driving only fan, as continued operation under heavy tension will wear bearings and cause fan to work hard. Belt also wears out rapidly.

## LINE OF OPERATION

# BLE SHOOTER

*Supplement to* MOTOR AGE *Issue of*

*Service Authority of the Motor Industry*

ROY E. BERG

tor car troubles classified according in a form to render the tracing of of group analysis and elimination.

## Group Analysis for Engines

**ENGINE**

Test compression, good and equal in all cylinders.

**COOLING SYSTEM**

If system runs hot, examine all hose connections and radiator for leaks. Low level of liquid causes excessive heating. Fan belt should be tight, and fan should run freely. Water pump impellor may be a possible source of trouble.

**LUBRICATION**

If gage fails to connect line to ga if oil flows. Abse dicates pump troub flowing oil with p cates gage trouble

2

### ication

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### Valve Timing

Valve timing is a remote possibility generally. However, if engine has been dis-assembled this may be a possibility. Tappet clearance is also a contributory factor for out of time valves. Check as given below if valve timing is in doubt. Both factors should be checked if valves are examined for timing.

### Mechanical Noises—Ge

If engine runs quietly during idling and un and under load and similarly when acceler engine mechanism is sufficiently tight to wa If noises do develop during these tests they the following classification.

**NO**

In analyzing engine noises determine occurring during idling without load. D regard to camshaft and crankshaft spee pump generator magneto, oil pump and always run at half crankshaft or camsh applying the brakes with gears in high developed through this procedure may by examination of the proper section.

**M**

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**VALVE CLEARANCE**

Tappet clearance and valve clearance from the rocker arm should always be checked before the valves are reset. Improperly adjusted valves will not produce the correct timing. Tappet clearances should be in accordance with individually prescribed directions for each engine as specified in Motor Age Maintenance Data Sheet No. 46 to 56 and 114 to 115.

**VALVE TIMING**

Valve timing may be wrong from improper mesh of timing gears. Generally the flywheel is marked to show the positions at which the valves will open. By placing the flywheel on cylinder 1 and 4 or 1 and 6 T. C. as the case will be, and likewise for eight and twelve cylinder cars, the pistons of these two cylinders will be on top dead center. Generally mark about 1 in. beyond the top dead center mark will be found which is the position that intake valve should begin to open. The camshaft may be turned with the gears out of mesh until the intake valve for cylinder one just begins to open. The gears should then be meshed and tightened and the engine is timed as far as the setting of the valves is concerned. The timing in degrees for the various cars may be found in Motor Age Maintenance Data Sheets No. 46 to 56 and 114 and 115.

**CRANKSHAFT SPEED KNOCKS**

Noises produced at crankshaft speeds may be crankpin knocks when loose, main bearing knocks and wrist pin bearings if pin is sufficiently loose. A crankpin knock is a heavy thudding noise, but not as heavy as a main bearing knock. Generally a main bearing will thump heavily under load. At times it is very difficult to distinguish between a crankpin, main bearing and fuel knocks. If it is assured that the noise is in the crankchamber, the pan should be removed and a bar pried against the shaft or against the rod which will show the presence of too much clearance by the manner in which the oil film is squeezed from the bearings.

**CAMSHAFT SPEE**

Noises occurring in unison with the camshaft may piston slaps, tappets, rocker arms, and valves. Included and distributor. Wrist pins may generally be heard w a metallic clink. Crank pins when knocking at this spe pin. Camshaft bearings are generally continuous, that than a main bearing simply because the shaft is lighter a too large clearance with the valve stem or the push r from a side slap of the tappet in its guide.

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**OPERATION**

TION SYSTEM
ails to register, dis-
e to gage and note
Absence of oil in-
p trouble and freely
with pressure indi-
trouble.

## Group Analysis for Carburetion System

Examine rear tank for gasoline, open bottom drain of vacuum tank and press a wire through opening of drain cock if no gasoline runs, as sediment many times will clog this outlet. Next lift float valve of carbureter and hold open for about 10 seconds. Examination of the three units of the gasoline system in this manner proves the presence of gasoline and assures that the lines from the tank and the vacuum tank are open and that the carbureter jets are not clogged. The increased level of the fuel in the carbureter float chamber will permit the fuel to flow from whatever jets are open, which will cause the carbureter to drip. This examination proving satisfactory will preclude possibility of major troubles in the carburetion system. Adjustments however, may be wrong which can not be proved until engine is started.

## —General Diagnosis

and under load, while accelerated idle
accelerator is suddenly released, the
t to warrant no further examination.
ts they may be classified according to

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All gasoline lines must be tight and clean of sediment before any of the following apparatus can function satisfactorily. Clogged gasoline lines always exhibit the same signs during engine operation as empty tanks do.

Carbureter adjustments can not be made if air leaks exist in manifold or carbureter flange connections or valve guides. These should be checked if adjustment is not obtained easily.

### NOTE

determine first as far as possible all noises
load. Determine status of these noises with
haft speed. Include all such drive shafts as
ump and distributer shafts which practically
or camshaft speed. Then load the engine by
in high and slipping the clutch. Any noises
re may be traced according to the following
ection.

### ENGINE ACTION UNLOADED

Under idling condition engine noises that appear are loose wrist pins, crankpin bearings if loose enough, loose tappet adjustments, rocker arms, loose valve stems, and camshaft end play. Auxiliary units which will be heard at this speed are pump shaft either end play or lateral motion, generator shaft, distributor drive, magneto coupling and drive.

### ENGINE ACTION LOADED

Noises heard under loaded condition are main bearings, piston slap, crankpin bearings, timing gear hum, and auxiliary members not ordinarily affected by load such as pump shaft, generator, magneto couplings, and tappets.

### SPEED KNOCKS

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of the crankshaft at the front bearing. If the front
p, the gears will hum. Chain driven camshafts should
lateral movement.

### ANALYSIS ON CARBURETER

Trouble should not be looked for in carbureter unless engine is warm and good running condition otherwise. Final adjustments should never be made with cold engine.

### CARBURETER ADJUSTMENTS

Correctness of any carbureter adjustment may be determined by the idling condition of the engine. An extremely rich adjustment of the low speed at idling speeds will produce a very pungent odor to the exhaust. Too lean a low speed adjustment will cause the engine to idle poorly and will often die after running spasmodically. The stop screw arm of the throttle determines the idling speed. Too rich a mixture of the high speed produces a black smoke and too lean a mixture of this nozzle is manifested by a spitting back through the carbureter. High speed adjustment is correct when engine faintly indicates backfiring with retarded spark which disappears with advance spark.

### MECHANICAL CARBURETER TROUBLES

Mechanical trouble of the carbureter such as leaky float, worn float valve, sediment in nozzles, clogged strainer, many times may be perceived by action of engine. Sediment in carbureter restricting flow of fuel will cause backfiring. Leaky float will cause flooding and loading of engine. Choke or dash control will often cause hard starting because of wear in levers not enabling strangler valve to completely close. Air leaks at carbureter flange and manifold connections must be given strict attention if the best of performance is wanted. On old type cars with long exposed manifolds having no heating, loading is apt to occur which can not be remedied by adjustment. Wear in the toggle levers and carbureter connections will often cause engine to run faster at idling speeds, or in other words, throttle valve does not close when quadrant lever is closed, which is best overcome by applying a small spring to carbureter arm.

### VACUUM TANK ANALYSIS

Disconnect vacuum line to tank and hold finger tightly over opening. If this clears up engine loading, trouble is in vacuum tank. Vacuum tank trouble is generally caused by sediment depositing on the valves of the tank. If when opening the bottom drain of the vacuum tank, it is necessary to force a wire through the sediment in order to have the gasoline run out, and the engine is at this time faltering or operating sluggishly, the trouble may be due to sediment in the tank, but this is a remote possibility generally and should be examined for last. An engine which seems to load continuously during idling regardless of carbureter setting, may have its source of trouble in a leaky float of the vacuum tank.

### REAR TANK INSPECTION

Inspection of the rear tank or the tank under the seat or in the cowl in the case of gravity feed systems need be confined to leakage and to sediment deposits. In the case of pressure feed systems the cap over the rear tank filler should be tight and in the case of vacuum feed the vent hole in the tank should be open. Gasoline lines should be tightly secured to the frame and in cases where this is not so trouble may be suspected in gasoline line leakage due to abrasion of the tubing.

LINE OF OPERATION

*Supplement to* MOTOR AGE *Issue of Jan. 27, 1921*

*Service Authority of the Motor Industry*

## Group Analysis for Engines

tor for leaks. Low level of liquid causes excessive heating. Fan belt should be tight, and fan should run freely. Water pump impellor may be a possible source of trouble.

**LUBRICATION SYSTEM**

If gage fails to register, disconnect line to gage and note if oil flows. Absence of oil indicates pump trouble and freely flowing oil with pressure indicates gage trouble.

## Group Analy

Examine rear tank for g
press a wire through openin
many times will clog this ou
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system in this manner prov
lines from the tank and the
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ments however, may be w
started.

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## Mechanical Noises—General Diagnosis

If engine runs quietly during idling and under load, while accelerated idle and under load and similarly when accelerator is suddenly released, the engine mechanism is sufficiently tight to warrant no further examination. If noises do develop during these tests they may be classified according to the following classification.

All gasoline lines must be tight and clean of sediment before any of the following apparatus can function satisfactorily. Clogged gasoline lines always exhibit the same signs during engine operation as empty tanks do.

**NOTE**

In analyzing engine noises determine first as far as possible all noises occurring during idling without load. Determine status of these noises with regard to camshaft and crankshaft speed. Include all such drive shafts as pump generator magneto, oil pump and distributer shafts which practically always run at half crankshaft or camshaft speed. Then load the engine by applying the brakes with gears in high and slipping the clutch. Any noises developed through this procedure may be traced according to the following by examination of the proper section.

**CRANKSHAFT SPEED KNOCKS**

Noises produced at crankshaft speeds may be crankpin knocks when loose, main bearing knocks and wrist pin bearings if pin is sufficiently loose. A crankpin knock is a heavy thudding noise, but not as heavy as a main bearing knock. Generally a main bearing will thump heavily under load. At times it is very difficult to distinguish between a crankpin, main bearing and fuel knocks. If it is assured that the noise is in the crankchamber, the pan should be removed and a bar pried against the shaft or against the rod which will show the presence of too much clearance by the manner in which the oil film is squeezed from the bearings.

**ENGINE ACTION UNLOADED**

Under idling condition engine noises that appear are loose wrist pins, crankpin bearings if loose enough, loose tappet adjustments, rocker arms, loose valve stems, and camshaft end play. Auxiliary units which will be heard at this speed are pump shaft either end play or lateral motion, generator shaft, distributor drive, magneto coupling and drive.

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Noises heard under loaded condition are main bearings, piston slap, crankpin bearings, timing gear hum, and auxiliary members not ordinarily affected by load such as pump shaft, generator, magneto couplings, and tappets.

**CAMSHAFT SPEED KNOCKS**

Noises occurring in unison with the camshaft may be camshaft bearings, wrist pins, crankpins, piston slaps, tappets, rocker arms, and valves. Included also are pump and auxiliary shafts, generator and distributor. Wrist pins may generally be heard when the engine is running idle, sounding like a metallic clink. Crank pins when knocking at this speed are somewhat heavier in tone than a wrist pin. Camshaft bearings are generally continuous, that is, occurring at all speeds, sounding lighter than a main bearing simply because the shaft is lighter. Tappets may produce two noises, one from a too large clearance with the valve stem or the push rod in the case of overhead valve engines, and from a side slap of the tappet in its guide.

A stethoscopic examination of these noises will tell which is which. When loose pistons slap the noises are generally produced first at camshaft speed, but as the wear develops the pistons are apt to clink at every top stroke. Piston slap possibilities may be eliminated or determined by loading the engine and slipping the clutch. Then with acutely advanced spark, notice engine sound retarding the spark while the load is on. If the pistons are slapping the noise will gradually disappear as the spark is retarded. Very often noise in the camshaft or the auxiliary drive shafts may be detected by prying on the shaft with a screw driver while the engine is running.

If the fan pulley is pressed downward or endways depending upon the noise being produced by a loose bearing or by end play in the shaft the eccentric or endwise movement of the shaft will be stayed which will prove the condition of the shaft. The foregoing applies to pump and generator shafts. Noisy rocker arms may be detected with a stethoscope. A whirring sound from the tim gears is generally caused by improper fittings of the crankshaft at the front bearing. If the front bearing wears and thus allows the shaft to drop, the gears will hum. Chain driven camshafts should have chain sufficiently tight to permit of ¼ in. lateral movement.

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LINE OF OPERATION

## Analysis for Carburetion System

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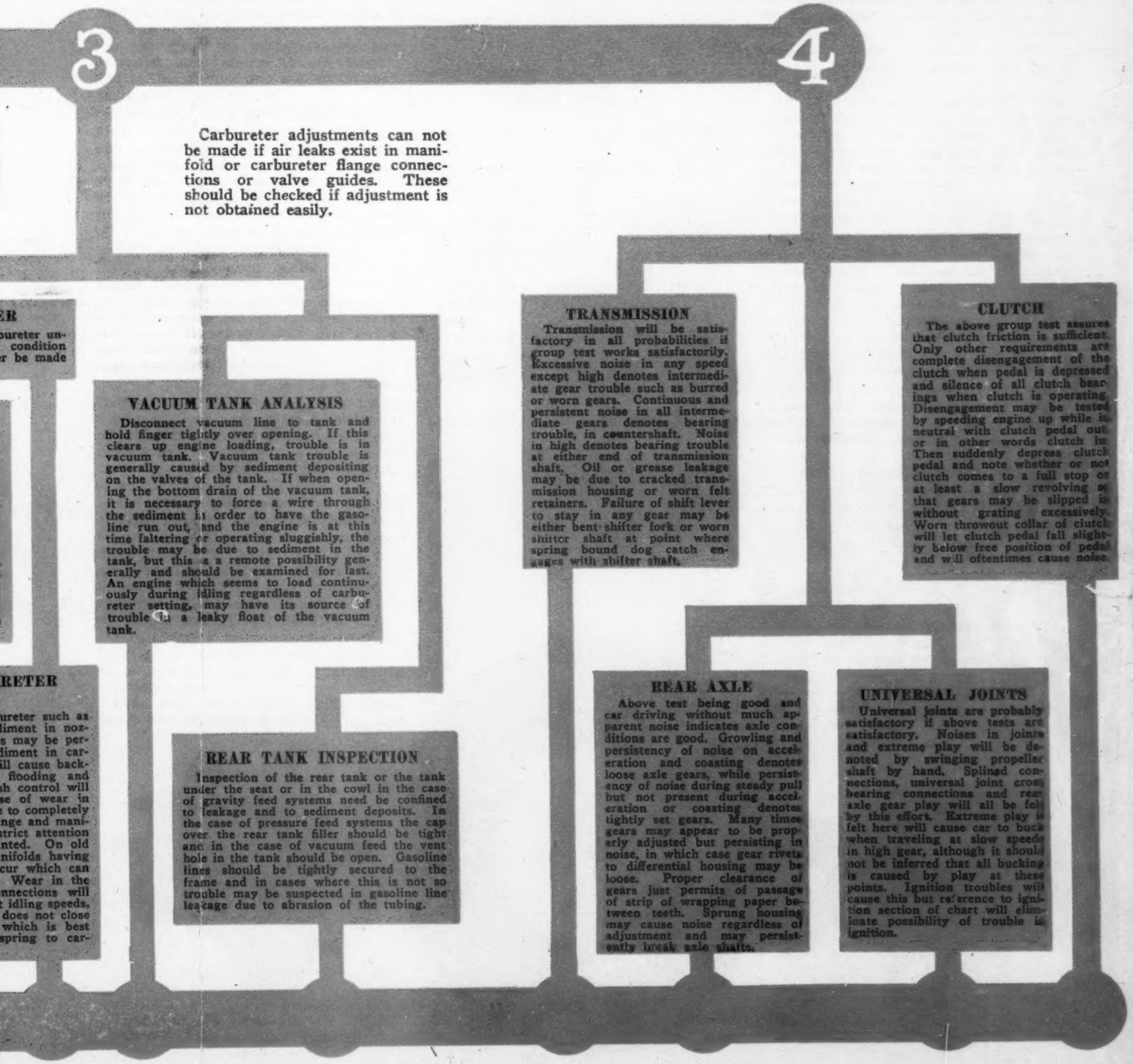
## Group Analysis for Transmission System

Test Clutch—Transmission—Universal Joints—Rear Axle Brakes by first placing car against rigid wall with front end of frame members resting solidly against wall. Then slip gears in low, accelerate engine and let clutch in. If wheels slip, clutch is sufficiently tight and all driving members between clutch and tires are good. Next apply brakes with gears in high, in which position engine should stop and brakes should not slip. After above tests car should be driven a short distance and noises listened for. Humming sounds in rear axle gears are best denoted by two men, one driving and the other listening at the rear axle with floor boards removed.


3
4
Carbureter adjustments can not be made if air leaks exist in manifold or carbureter flange connections or valve guides. These should be checked if adjustment is not obtained easily.
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bureter un- condition r be made
RETER
ureter such as liment in noz- s may be per- liment in car- ill cause back- flooding and h control will se of wear in e to completely nge and mani- trict attention nted. On old nifolds having cur which can Wear in the nnections will t idling speeds, does not close which is best spring to car-
VACUUM TANK ANALYSIS
Disconnect vacuum line to tank and hold finger tightly over opening. If this clears up engine loading, trouble is in vacuum tank. Vacuum tank trouble is generally caused by sediment depositing on the valves of the tank. If when opening the bottom drain of the vacuum tank, it is necessary to force a wire through the sediment in order to have the gasoline run out, and the engine is at this time faltering or operating sluggishly, the trouble may be due to sediment in the tank, but this is a remote possibility generally and should be examined for last. An engine which seems to load continuously during idling regardless of carbureter setting, may have its source of trouble in a leaky float of the vacuum tank.
REAR TANK INSPECTION
Inspection of the rear tank or the tank under the seat or in the cowl in the case of gravity feed systems need be confined to leakage and to sediment deposits. In the case of pressure feed systems the cap over the rear tank filler should be tight and in the case of vacuum feed the vent hole in the tank should be open. Gasoline lines should be tightly secured to the frame and in cases where this is not so trouble may be suspected in gasoline line leakage due to abrasion of the tubing.
TRANSMISSION
Transmission will be satisfactory in all probabilities if group test works satisfactorily. Excessive noise in any speed except high denotes intermediate gear trouble such as burred or worn gears. Continuous and persistent noise in all intermediate gears denotes bearing trouble, in countershaft. Noise in high denotes bearing trouble at either end of transmission shaft. Oil or grease leakage may be due to cracked transmission housing or worn felt retainers. Failure of shift lever to stay in any gear may be either bent shifter fork or worn shifter shaft at point where spring bound dog catch engages with shifter shaft.
CLUTCH
The above group test assures that clutch friction is sufficient. Only other requirements are complete disengagement of the clutch when pedal is depressed and silence of all clutch bearings when clutch is operating. Disengagement may be tested by speeding engine up while in neutral with clutch pedal out or in other words clutch in. Then suddenly depress clutch pedal and note whether or not clutch comes to a full stop or at least a slow revolving so that gears may be slipped in without grating excessively. Worn throwout collar of clutch will let clutch pedal fall slightly below free position of pedal and will oftentimes cause noise.
REAR AXLE
Above test being good and car driving without much apparent noise indicates axle conditions are good. Growling and persistency of noise on acceleration and coasting denotes loose axle gears, while persistency of noise during steady pull but not present during acceleration or coasting denotes tightly set gears. Many times gears may appear to be properly adjusted but persisting in noise, in which case gear rivets to differential housing may be loose. Proper clearance of gears just permits of passage of strip of wrapping paper between teeth. Sprung housing may cause noise regardless of adjustment and may persistently break axle shafts.
UNIVERSAL JOINTS
Universal joints are probably satisfactory if above tests are satisfactory. Noises in joints and extreme play will be denoted by swinging propeller shaft by hand. Splined connections, universal joint cross bearing connections and rear axle gear play will all be felt by this effort. Extreme play is felt here will cause car to buck when traveling at slow speeds in high gear, although it should not be inferred that all bucking is caused by play at these points. Ignition troubles will cause this but reference to ignition section of chart will eliminate possibility of trouble in ignition.

# A Look Into the Realm of Trucks

## *More General Use of the Pneumatic Tire Has Had Big Influence on Truck Design—Truck Makers Paying More Attention to Road Deterioration by Heavy Vehicles*

*By G. REX VOLZ*

WITH the exception of a few new models that have entered the truck field the 1921 trucks have little to offer in the way of mechanical changes. During the past year the manufacturers have extended their efforts toward building and selling trucks that are suited for a particular kind of work.

There has been the gradual development of refinements in details of design and in addition some of the important truck units such as engine, transmissions and rear axles have undergone some decided changes. The problem of the proper cushioning of trucks has been given a great deal of thought and some models have been announced that show marked improvement along this line. Recent designs show that the truck is not being built to resist the punishment from the road but to conform to the road and it is safe to predict that we will soon see lighter, stronger, faster and more economical trucks.

A review of the specification tables shows that in spite of the unsettled business conditions and constant fluctuation of prices the average prices of all truck models has only increased 8.3 per cent over the average price at the beginning of 1920.

The use of pneumatic tires shows a decided increase and trucks have been completely redesigned to accommodate these tires. The 1-ton truck of a year ago was fitted with solid tires while the average 1-tonner for 1921 is pneumatic equipped. The general adoption of the pneumatic tire on this model is due to the fact that a truck can be driven at high speed without causing failure of parts due to shock loads, fatigue or crystallization.

Even with new solid tires the impact forces are three times as great as with pneumatics, which means that it is possible to drive a truck pneumatic equipped three times as fast as a solid tire equipped truck without setting up worse stresses. The manufacturer also has considered road deterioration which is causing opposition to the use of trucks. Tests show that the impact forces with solid tires are about five times greater than with pneumatics. The most popular size of trucks offered for the year 1921 is the 1½ ton which was also the most popular model in 1920. Following in order for 1921 come the 2½ ton with 92 models; the 3½ ton with 84 models; and the 2 ton with 63 models.

In the design of the truck units there has been the introduction of a dual-valve engine by the Pierce-Arrow company. This engine was developed previously and used in passenger car models. The claims made for this engine are greater power output without increase in weight and improved fuel economy. More rapid entrance and expulsion of gases to and from the cylinder is the basis for greater power. The fact that the dead gases are more completely expelled means that the incoming mixture need not be so rich to form an inflammable mixture and is the basis for the claim of greater fuel economy.

Pierce-Arrow conducted a test of a 4½ by 5 dual-valve engine which showed a 25 per cent increase in power over a single valve engine of the same size.

The Midwest Engine company has developed a four cylinder engine with a two-bearing counterbalanced crankshaft that works with a compression of 86 lb. This engine is a light high speed job for use in the speed wagons that are becoming so popular.

The use of pneumatic tires and the demand for greater speed brought about the introduction of new gearset designs. The trend seems to be in favor of the four speed gearset, because it gives a wider range of speed and is better adapted to varying loads and road conditions. Four speeds permit the use of a low gear ratio for first speed that will give greater pulling power at that speed without sacrificing the higher speeds

(*Concluded on page* 108)

### Some Features of 1921 Trucks

*Average price of all models has increased 8.3 per cent over last year.*

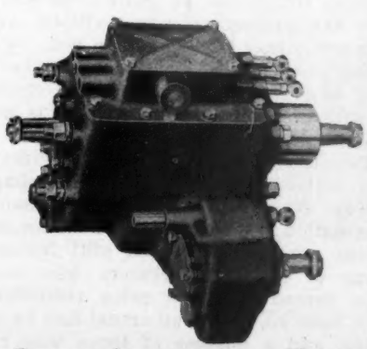
*There is a decided increase in the use of pneumatic tires.*

*1½-ton truck most popular size.*

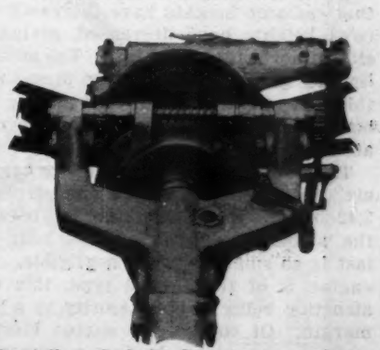
*Trend in design seems to favor four-speed gearsets.*

*Use of propeller shaft brake big factor in accessibility and provides perfect equalization through differential.*

*Electric starting and lighting has gained favor due to more general adoption of pneumatic tires.*



Four-speed transmissions with power take-off are becoming popular in trucks



Propeller shaft brakes mean perfect equalization of braking effort on rear wheels

# The AVERAGE CAR

by - Roy E. Berg.

## Specifications of the Average Car of 1921

*PRICE, touring, five and seven-passenger.....$2,794*
*WHEELBASE .....122-in.*
*ENGINE, .....6-cylinder, L-head, 3.42 by 4.97 in*
*PISTON DISPLACEMENT .....256.35 cu. in.*
*HORSEPOWER, N. A. C. C.....26.33*
*OILING SYSTEM ..Splash pressure with gear pump*

THE average car of 1921, being a composite of the American built cars, is presented again by MOTOR AGE for the eleventh time, complete with technical specifications and the digest of car trend since 1910. The average car for this year is only slightly different from that of last year the major differences being a wheelbase longer by 4 in. and a price difference of $400. A thorough search into the specifications of 459 body models mounted on 119 chassis as made by 107 manufacturers reveals the small differences in this year's car and emphasizes the fact that standardization is very complete.

The manner in which the averages are computed should be explained, before the details of the car are taken up. It is obvious that if the averages were based on production figures the car would bear a striking resemblance to the Ford, Chevrolet and Buick and others of large production. Ford, last year, made over half the American cars and on this basis, therefore, more than half the car would be a Ford. Therefore, the calculations are made from the number of chassis.

### Radiators Higher

On the opposite page is pictured the average car in the proportions of the calculated specifications.

A comparison with the average car of last year and the year preceding shows that radiator heights have increased and cowl heights have decreased, giving an almost horizontal hood line. The straight line design seems to be more pronounced this year than last and accordingly, the body line is carried forward to the radiator.

The power plant of the average car has six cylinders with a bore and stroke of 3.42 by 4.97 in. The difference between the stroke-bore ratio of this year and last is so small as to be negligible. The engine is of the L-head type, this construction being in the majority by a wide margin. Of course, the engine block is cast in one piece, having a removable head, and having also, the crankcase upper half integral with the block.

The oil reservoir is pressed steel. Iron pistons are used although aluminum has gained considerable favor in the year past. More precise machining is being done on the pistons in order to effect a reduction of crankcase dilution. Oil grooves are cut in practically all pistons to aid in this work.

The crankshaft is supported by three bearings. The front and center bearings have two-bolt caps and the rear a four-bolt cap. A hollow crankshaft is not used on the average car as yet although it is probable that three or four years more will see it so.

Helical gears are used to drive the camshaft. This type of drive seems to be holding its own as are the other types of camshaft drive, the silent chain having varied less than 4 per cent in three years.

The oiling system of last year's car was supplied by a camshaft-driven plunger pump but this year a geared pump is used, giving more positive operation and insuring better lubrication.

Engine cooling is positive, the water being circulated by centrifugal pump driven from an auxiliary shaft. A perceptible increase in thermostatically controlled cooling systems seen this year which is a step in the right direction if low gravity fuels are to be burned efficiently.

### Single Ignition Battery

A single ignition battery system is used as this is greatly in the majority. The remainder of the electrical system consists of a two unit starting motor and generator and a six volt battery. This is the first year the average car is fitted 100 per cent with electrical starting equipment.

The fuel feed is vacuum and there seems to be nothing in view which will change this type of fuel feed for several years to come.

The clutch mechanism and gearset are in unit with the engine. A dry disk clutch is used as this is employed on more than 82 per cent of the cars. The transmission has three speeds. Many attempts are being made to change over from the gear shift lever to steering wheel selectors but, as yet, only one has succeeded in placing a satisfactory unit on the market, this being the Premier in which the gears are electrically selected.

There is a good deal of conflict amongst the universal joint manufacturers for supremacy. Makers of flexible disk joints are gaing favor daily as is evidenced by the wide use which their productions are being given. Despite the efforts of the flexible disk joint people though, the mechanical joint is supreme in numbers.

### Axle Changed

A change is noted in the axle. Last year the floating type was used on 51.8 per cent of the chassis models but this year the semi-floating and three-quarter floating together constitute the majority, these types being used on 63 per cent of the chassis.

The drive is through spiral bevel gears. This year we note the re-introduction of the friction disk drive. Torque rods and torque arms are dispensed with as the drive is Hotchkiss. It follows, therefore, that the springs are semi-elliptic and they are longer this year than last.

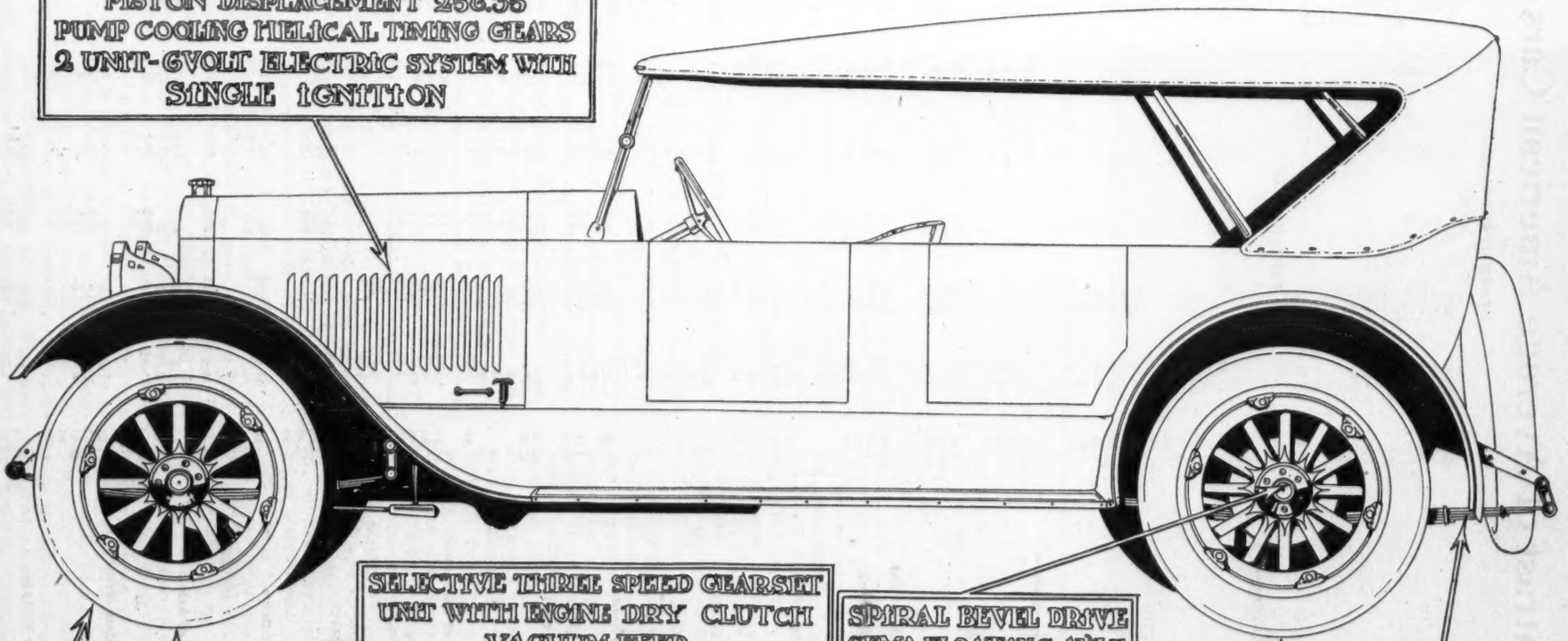
The tire size is 32 by 4 in., wood wheels used as standard and an optional choice of wire or steel being offered by 18 per cent of the makers.

Two thousand, seven hundred ninety-four dollars seems to be a lot of money for an average car and there is much speculation rife as to whether or not the prices are to be reduced still further. Many of the manufacturers who have been forced to make price reductions have done so, taking an actual loss by so doing, and a number of those who reduced prices have re-considered their move by announcing increases.

# The AVERAGE CAR of 1921

PRICE of 5 or 7 PASSENGER CAR - $2794
( ALL BODIES $3583 )

SIX CYLINDER ENGINE
N.A.C.C. H.P. 26.33 L-HEAD BLOCK CASTING
BORE and STROKE 3.42 & 4.97
STROKE BORE RATIO 1.45 : 1
PISTON DISPLACEMENT 256.35
PUMP COOLING HELICAL TIMING GEARS
2 UNIT-6 VOLT ELECTRIC SYSTEM WITH
SINGLE IGNITION



SELECTIVE THREE SPEED GEARSET
UNIT WITH ENGINE DRY CLUTCH
VACUUM FEED

SPIRAL BEVEL DRIVE
SEMI FLOATING AXLE
GEAR RATIO 4:49

TIRES
32 X 4 in.

WHEEL BASE 121.97 in.

SEMI-ELLIPTIC
SPRINGS

# Contrast of Average American Cars for 10 Years

## GENERAL AVERAGES

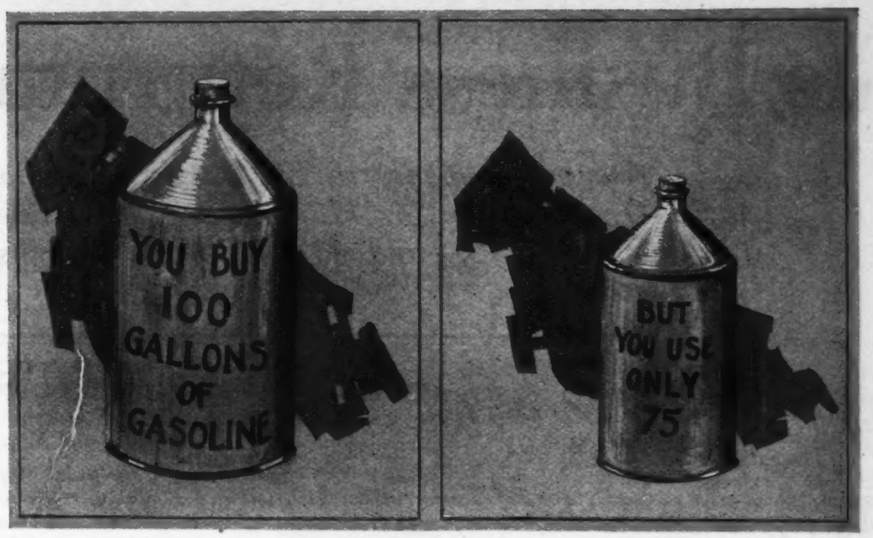
| | 1921 | 1920 | 1919 | 1918 | 1917 | 1916 | 1915 | 1914 | 1913 | 1912 | 1911 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Horsepower, N.A.C.C. | 26.33 | 25.85 | 32.94 | 27.4 | 24.3 | 28.66 | 29.97 | 33.2 | 33.60 | 33.60 | 32.7 |
| Bore | 3.42 | 3.34 | 3.74 | 3.43 | 3.37 | 3.57 | 3.82 | 4.12 | 4.19 | 4.34 | 4.42 |
| Stroke | 4.97 | 4.92 | 4.52 | 4.94 | 4.66 | 4.97 | 5.10 | 5.28 | 5.15 | 4.97 | 4.46 |
| Stroke-bore ratio | 1.45-1 | 1.47-1 | 1.30 | 1.44 | 1.38 | 1.39 | 1.33 | 1.28-1 | 1.23-1 | 1.09-1 | 1.01-1 |
| Piston displacement | 256.35 | 254.5 | 261 | 269 | 222.5 | 278.87 | 307.38 | 349 | 345 | 316.2 | 313.2 |
| Wheelbase | 121.97 | 118.4 | 119.8 | 120.7 | 113.25 | 119.56 | 122.19 | 121 | 122 | 121 | 114 |
| Gear ratio | 4.49 | 4.23 | 4.32 | 4.22-1 | 4.15-1 | 4.15-1 | 3.88-1 | 3.6-1 | 3.57-1 | 3.62-1 | .... |
| Tires | 32x4 | 33x4 | 33x4 | 34x4 | 34x3½ | 33x4½ | 34x4 | 35x4½ | 35x4½ | 35x4 | 34x4 |
| Number cars | 459 | 551 | 437 | 650 | 644 | 519 | 535 | 607 | .... | .... | .... |
| Number chassis | 119 | 143 | 115 | 180 | 194 | 176 | 200 | 236 | 339 | 381 | 393 |
| Number makes | 107 | 122 | 98 | 125 | 138 | 108 | 119 | 133 | 156 | 193 | 270 |
| Price | $2794.00 | $2410 | $2128 | $1822 | $1687 | $1600 | $2005 | $2635 | $2585 | $2508 | $2560 |

## PERCENTAGES

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Number of Cylinders** | | | | | | | | | | | |
| One cylinder | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Two cylinders | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 1 | 1 | 1 | 2 |
| Four cylinders | 35.30 | 33.80 | 31.8 | 34.5 | 37 | 39.2 | 51.0 | 54 | 62 | 78 | 80 |
| Five cylinders | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| Six cylinders | 54.62 | 56.2 | 53.2 | 51.7 | 47 | 45.8 | 47.5 | 45 | 36 | 19 | 17 |
| Eight cylinders | 8.40 | 7.15 | 10.6 | 10.2 | 12 | 12.6 | 1.0 | 0 | 0 | 0 | 0 |
| Twelve cylinders | 1.68 | 2.85 | 4.4 | 3.6 | 4 | 2.4 | 0 | 0 | 0 | 0 | 0 |
| **Shape of Cylinders** | | | | | | | | | | | |
| T-cylinder type | 5.88 | 6.12 | 10.48 | 6.8 | 5 | 13.7 | 16.5 | 30 | 31 | 30 | 22 |
| L-cylinder shape | 63.71 | 63.13 | 58.44 | 63.5 | 73 | 73.3 | 70.0 | 59 | 56 | 55 | 60 |
| I-cylinder type | 22.35 | 21.50 | 20.96 | 22.2 | 20 | 13.0 | 8.5 | 6 | 9 | 9 | 14 |
| Knight type | 4.20 | 3.04 | 4.2 | 4.0 | 2 | 3.6 | 3.0 | 3 | 3 | 2 | 1 |
| F-head | 1.68 | 0 | 0 | 2.3 | .... | .... | .... | .... | .... | .... | .... |
| Horizontal valve | 2.18 | 1.21 | 4.2 | 1.2 | .... | .... | .... | .... | .... | .... | .... |
| Two-cycle | 0 | 0 | 0 | 0 | 0 | 0 | 1.0 | 1 | 1 | 4 | 3 |
| **Cylinder Arrangement** | | | | | | | | | | | |
| Cylinders cast separate | 2.52 | 2.3 | .... | .... | 1 | 4.8 | 4.0 | 6 | 15 | 22 | 28 |
| Cylinders cast in p'rs | 3.36 | 3.5 | .... | .... | 5 | 10.2 | 27.0 | 42 | 48 | 58 | 60 |
| Cylinders cast in bl'k | 89.76 | 88.4 | .... | .... | 87 | 78.4 | 67.5 | 39 | 29 | 18 | 12 |
| Cylinders cast in 3s | 4.36 | 5.8 | .... | .... | 7 | 6.6 | 10.5 | 13 | 8 | 2 | 0 |
| **Cooling** | | | | | | | | | | | |
| Air cooled | 3.84 | 2.3 | 1.95 | 0.5 | .... | .6 | .5 | 2 | 4 | 5 | 6 |
| Thermo-syphon | 27.89 | 27.7 | 30.70 | 32.5 | 38 | 38.2 | 27 | 27 | 19 | 19 | 28 |
| Pump circulating | 68.27 | 64.8 | 67.35 | 67.0 | 62 | 61.2 | 72.5 | 79 | 79 | 76 | 66 |
| Thermostat control | 20.17 | 5.2 | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| **Ignition Systems** | | | | | | | | | | | |
| Single ignition | 91.08 | 90.2 | 88.24 | 91.0 | 84 | 76.0 | 56 | 23 | 15 | 14 | 18 |
| Dual ignition | 7.24 | 7.14 | 6.86 | 2.1 | 9 | 19.2 | 36 | 59 | 68 | 63 | 53 |
| Two-spark ignition | .84 | 0 | 0 | 1.1 | 1 | 1.2 | 1.45 | 4 | 2 | 0 | 0 |
| Double ignition | .84 | 2.66 | 2.94 | 3.5 | 3 | 1.8 | 4.55 | 11 | 15 | 23 | 29 |
| Duplex ignition | 0 | 0 | 0 | .6 | 1 | 1.8 | 2.0 | 3 | 0 | 0 | 0 |
| Dual-double | 0 | 0 | 1.96 | 1.7 | 2 | .... | .... | .... | .... | .... | .... |
| **Engine Lubrication** | | | | | | | | | | | |
| Splash oiling | .84 | 0 | 0 | .6 | 35 | 52.7 | 46.5 | 42 | 53 | 68 | 81 |
| Splash pressure | 64.71 | 67.4 | 69.61 | 71.6 | 35 | 23.35 | 16 | 39 | 32 | 20 | 0 |
| Oil in fuel | 0 | 0 | 0 | 0 | 0 | .... | 0 | 1 | 1 | 2 | 3 |
| Pressure oiling | 32.77 | 32 | 29.41 | 26.7 | 30 | 23.35 | 37.5 | 18 | 14 | 10 | 19 |
| Splash gravity | 1.68 | 0.6 | .98 | 1.1 | .... | .6 | 0 | 0 | 0 | 0 | 0 |
| **Engine Starting** | | | | | | | | | | | |
| Electric starter | 100 | 98.6 | 99 | 99 | 99 | 98.8 | 94.5 | 87 | 37 | 2 | 0 |
| Acetylene starter | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 14 | 0 | 0 |
| Air starter | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 9 | 2 | 1 |
| Optional starter | 0 | 0 | 0 | 0 | 0 | 0 | 1.5 | 2 | 5 | 0 | 0 |
| Mechanical starter | 0 | 0 | 0 | 0 | 0 | 0 | .5 | 1 | 4 | 0 | 0 |
| No starter as stock | 0 | 1.4 | 1 | 1 | 1 | 1.2 | 3.5 | 5 | 31 | 98 | 99 |
| **Fuel Feed** | | | | | | | | | | | |
| Gravity | 3.36 | 4.9 | 7.87 | 9.7 | 18 | 31.8 | 57 | 58 | 65 | 75 | 81 |
| Gravity-pressure | 0 | 0 | 0 | 0 | 1 | 2.4 | .5 | 1 | 0 | 0 | 0 |
| Pressure | 7.56 | 5.6 | 5.89 | 6.8 | 7 | 12.0 | 22 | 41 | 35 | 25 | 19 |
| Vacuum | 89.08 | 89.5 | 86.24 | 83.5 | 74 | 53.8 | 20.5 | 0 | 0 | 0 | 0 |
| **Type of Clutch** | | | | | | | | | | | |
| Disk clutch | 82.35 | 81.1 | 71.6 | 72.4 | 68 | 63.4 | 51 | 48 | 52 | 44 | 51 |
| Cone clutch | 16.81 | 17.4 | 27.43 | 25.9 | 30 | 45.6 | 44 | 41 | 45 | 52 | 47 |
| Expanding band | 0 | 0 | 0 | 0 | 0 | 0 | .5 | 3 | 1 | 3 | 2 |
| Contracting band | 0 | 0 | 0 | 0 | 0 | 0 | 4.5 | 5 | 2 | 1 | 1 |
| None | 0 | 0 | 0 | .5 | 1 | .... | .... | 3 | .... | .... | .... |
| Electric | .84 | 1.76 | .97 | 1.2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| **Location of Gearset** | | | | | | | | | | | |
| Amidship, selective | 15.21 | 10.03 | 12.98 | 17.4 | 13.5 | 20.5 | 31.5 | 39 | 45 | 54 | 66 |
| Unit with axle, selective | .84 | 4.15 | 4.08 | 7.1 | 9 | 14.0 | 18.2 | 15 | 20 | 20 | 17 |
| Unit with engine, selective | 80.59 | 83.5 | 79.92 | 71.0 | 77 | 63.1 | 49.3 | 42 | 34 | 25 | 16 |
| Unit with torque tube, selective | 1.68 | 2.34 | 1.02 | 2.0 | 0 | .... | .... | .... | .... | .... | .... |
| None | 0 | .... | .... | .... | .... | .... | .... | 3 | .... | .... | .... |
| Planetary | .84 | 1.4 | .98 | .5 | .5 | .5 | 1.0 | 1 | 1 | 2 | 4 |
| Magnetic | .84 | 1.76 | 1.02 | 2.0 | .... | .... | .... | .... | .... | .... | .... |
| **Wheels** | | | | | | | | | | | |
| Wire wheels—mountable | 14.28 | 20.55 | .... | 11.4 | 10 | 6.5 | 7.0 | 4 | 3 | 0 | 0 |
| Wood wheels | 66.39 | 63.70 | .... | 72.2 | 79 | 82.5 | 88.5 | 96 | 96 | 100 | 100 |
| Optional | 18.49 | 14.39 | .... | 16.4 | 11 | 11.0 | 4.5 | 0 | 0 | 0 | 0 |
| Steel | .84 | 1.37 | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| **Final Drive** | | | | | | | | | | | |
| Shaft and bevel | 14.96 | 21.5 | 12.75 | 18.3 | 28 | 41.0 | 84.5 | 93 | 94 | 92 | 91 |
| Chain | 0 | 0 | 0 | 1.7 | 1.5 | 1.7 | 4.5 | 4 | 4 | 6 | 8 |
| Shaft and worm | 0 | 0 | 0 | .5 | .5 | .5 | 1.5 | 1 | 1 | 1 | 0 |
| Roller | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
| Shaft and spiral—bevel | 85.04 | 78.5 | 87.25 | 79.5 | 70 | 56.8 | 9.5 | 1 | .... | .... | .... |
| **Type of Axle** | | | | | | | | | | | |
| Floating | 36.14 | 51.8 | 46.5 | 42.3 | 43.5 | 51.8 | 56.5 | 65 | 67 | 50 | 0 |
| Semi-floating | 31.93 | 26.85 | 24.2 | 26 | 25.5 | 23.6 | 23.0 | 17 | 26 | 49 | 0 |
| Three-quarter floating | 31.93 | 21.35 | 29.3 | 30.6 | 29.5 | 22.8 | 18.5 | 14 | 4 | 0 | 0 |
| Dead rear axle | 0 | 0 | 0 | 1.1 | 1.5 | .6 | 2.0 | 3 | 3 | 1 | 0 |
| **Timing Gear Drive** | | | | | | | | | | | |
| Spur Gear | 1.68 | 1.32 | 5.9 | 2.2 | 4 | 8.4 | 16.1 | 13 | 83 | .... | .... |
| Helical or spiral gear | 77.83 | 79.00 | 79.4 | 79.0 | 73 | 73.0 | 73.7 | 77 | 10 | .... | .... |
| Silent chain | 18.81 | 18.40 | 14.7 | 17.6 | 21 | 18.1 | 9.1 | 10 | 7 | .... | .... |
| Worm | .84 | .64 | 0 | 0 | 1 | .5 | 1.1 | 0 | 0 | 0 | 0 |
| Spiral bevel | .84 | .64 | 0 | 1.2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Starter Voltage** | | | | | | | | | | | |
| Six | 95.64 | 94.75 | 92.1 | 89.2 | 87.5 | .... | .... | .... | .... | .... | .... |
| Twelve | 4.36 | 5.25 | 6.91 | 9.7 | 11.5 | .... | .... | .... | .... | .... | .... |
| Twenty-four | 0 | 0 | .99 | .5 | 1 | .... | .... | .... | .... | .... | .... |
| Sixty | 0 | 0 | 0 | .6 | .... | .... | .... | .... | .... | .... | .... |

# GET THE OTHER 25 PER CENT

## *One-quarter of the Fuel Put Into the Gasoline Tank Does No Useful Work and Authorities Say It Might as Well Be Dumped on the Ground*




THE average automobile engine burns less than 75 per cent of the fuel entering the cylinders. This is not only due to the fact that it is running throttled nearly all of the time, but because of the fact that the problem of really burning the fuel in the cylinders has not as yet been solved. This question of fuel economy which was considered at the annual meeting of the Society of Automotive Engineers just completed in New York, is of primary importance to the dealer and garage man, because it is only through them that the ten million vehicles now in use can be reached. The attention of the most capable engineers in the country is now being directed to this problem and it is expected that important advances will be made toward the ultimate solution of the problem and the determination of a method of attack which will tend to greatly conserve the supply of fuel in this country.

It has been pointed out in connection with this waste of fuel that it is just as bad as if 25 out of each 100 gal. poured into the tank were allowed to leak, and, in fact, it is more harmful than if it is lost for it results in a great many engine troubles, due to the dilution of the lubricating oil in the crankcase and the washing away of the lubricant on the cylinder walls, allowing greatly accelerated piston and cylinder wear.

As pointed out by A. L. Nelson, chief engineer of the Premier Motor Corp., in discussing this subject at the meeting, it is possible by concentrated study on this problem to get some real results. The amount of power required to keep a car in motion at moderate speeds is very low and, consequently, the engine is required to operate at a very light throttle opening once this speed is reached. Naturally, poor fuel economy is going to result because this is the most disadvantageous condition under which the engine is required to operate for economy. Mr. Nelson showed how economy and performance can be greatly increased by increasing the compression ratio, this being made feasible by very late closing of the inlet valve. The effect of gear ratio on economy is also brought out in a paper and some new designs of piston and inlet manifolds were described.

C. P. Grimes, development engineer of the Root & Van Dervoort Co., in discussing this subject, stated that he had recently made a number of tests which showed that greater economy results from carrying a much greater spark advance than is commonly employed under part throttled conditions. This economy can be gained by a method of interconnection between the throttle and spark advance mechanism when the latter is automatic, as it then must be set to properly function at full load when at the same speed and part load a greater advance can be used to advantage.

### The Fuel Problem

*ALL of the developments towards the better utilization of modern fuel are more or less in the preliminary stage. But, the developments are progressing rapidly and there is every assurance that eventually they will lead to a vast stride in economy and engine life, not only among new cars, but among the ten million vehicles in use*

Just to show how inefficient the average car is, the Bureau of Mines has made a number of tests on cars selected at random for the purpose of determining the percentage of unburned products in the exhaust. These cars were selected at random and tested under normal operating conditions in precisely the same state of adjustment, or lack of adjustment, in which they run in normal use. This report showed that the exhaust contained only 9 per cent of carbon dioxide; that is, completely burned carbon, while the average percentage of carbon monoxide; that is, carbon only partly burned, was seven. The unburned hydrogen and hydrocarbons in the exhaust, which represent real fuel value, was over 3 per cent. Not a single car was found in which more than 95 per cent of the fuel was burned, and the average percentage was under seventy-five.

The thermostatic device designed for air temperature regulation and used on the buses of the Fifth Avenue Coach Co., New York, has made it possible to make an average saving of about 8 per cent in fuel. With this device, when it is considered that the company uses several million gallons of gasoline a year, the fuel bill has been greatly reduced.

While most of the papers presented at this meeting of the Society of Automotive Engineers were highly theoretical in nature and not of direct interest to the dealer, they nevertheless are going to have an effect which will become a vital factor in his business as time goes on. For instance, Dr. Dickinson, of the Bureau of Standards, has been doing some research work on fuel which included some studies of conditions known to aggravate the tendency of an engine knock. In order to prove that the knock is due after all to an aggravated piston slap, a piston with excessive clearance was tried, and it was found possible to readily distinguish between the knock due to combustion phenomena and that due to piston slap.

Other tests involved the use of one or two spark plugs used separately or together, and it was found possible to bring about conditions in which firing from one plug would cause a knock, while firing from two plugs would not do so and vice versa. The reason for this is not yet apparent, but it is thought possible that the knock can be controlled by accurate timing of the center of the explosion. It has been noted that pressures in excess of 1000 lb. per square inch may result from the knock and that the latter is invariably accompanied by a sudden rise in water temperature.

# Is Business Returning to Stay?

## *Answer Appears to Lie Partly in Capacity of Dealer Organization for Hard Work, Intensive Sales Efforts and Aggressive Campaigns*

CHICAGO, Jan. 20.—Nineteen twenty-one for the automobile industry was ushered in in what might be termed an auspicious manner. The New York show which had been awaited by every dealer throughout the country brought with it a message so clear that even the most pessimistic man in the trade could not but heed it. That message was—the buyers are back in the market.

The show indicated beyond a doubt that the buyers had returned—more conservative in their attitude, it is true, and more attentive to the values offered than heretofore, particularly more conservative and more attentive than the early part of last year when money was plentiful and purchasing was running riot. The effects of that show will be reflected in the Chicago show and the latter exhibit will bring the buyers closer to the time of the year when actual business should start.

The message from New York is cited merely to show that the new year opened up with the market where the dealers would have it. The question that confronts the dealer is whether the buyers will continue to stay in the market now that they have shown a disposition to come back or, having come, will they return to cover for another period of hibernation, although the period when buying should be done if done at all is upon them, to await further developments in the industry. Are they expectant of further decreases in the prices of automobiles?

The fact that the buyers have shown more than anticipated interest in what the New York show had to offer and that this interest was of an unusually intelligent nature would seem to indicate that the buying public is in a receptive mood to be kept in the market and that prospective purchasers feel that there will be no further radical reductions in the prices of cars. Whether the buyers will stay in the market is a matter to be settled by the individual dealer organization and by the general conditions of the country.

To keep the buyer in the market will entail hard work, aggressive campaigns, intensive salesmanship and systematic methods of bringing out the prospects who are in the market ready to be sold on the idea that now is the time for them to buy and not next month or the month after that. Hard work will be the panacea for many of the ills which may face the dealer. And this hard work will devolve not only upon the dealer himself but upon every individual in his organization.

The buying power that the public has will, of course, affect the extent of purchases. This power will depend upon business conditions throughout the country. If there is a feeling that conditions generally are bad and that they will grow worse instead of better that feeling will prove a detriment to every line of activity.

### Industry Being Placed on Sound Basis

*THE country has not yet fully emerged from the period of readjustment which followed months of extravagance but it continues to adjust its affairs in an orderly and satisfactory manner.*

*Through care and prudence, with strict compliance with the demands of the time, manufacturers have been placing industry on a sound, substantial basis.*

*The beginning of every new year brings with it a certain amount of financial stringency but such a condition should not of itself prove alarming. Bankers and creditors show a desire to help every industry which basically is sound.*

*Buyers are back in the market—but they are a different class of buyers than heretofore; they are showing care and conservatism in their purchasing. They are looking to values. They are not out shopping.*

*To keep the buyer in the market the present year demands hard work, plenty of hard work and then more of it.*

Already there are evidences of a better, easier feeling in business circles. Recovery is being made from the period of depression in the latter part of the past year, which was attended by the curtailment of purchasing. This does not mean that normal conditions are here or that they are anywhere near to being restored. It does not mean that the dealer can go ahead with his business along any other than sane, careful and conservative lines; that he can afford to delude himself into thinking that the day has come with the breaking of the dawn; for there is a long time ahead before the sun will actually shine forth with its old brilliance.

Manufacturers have endeavored to regulate their business to bring back normal conditions. They have cut production to the bone; they have shut down their factories for weeks at a time while they have liquidated their inventories so that they might start the new year with a clean slate, with their plants on as sound a basis as possibly could be. Automobile makers as a whole will not be profligate in their production schedules. They will aim, from present indications, to keep pace with the demand but not much ahead of it. Their production henceforth will be based on what the dealer demands and not what they want to sell. This must tend toward a more wholesome development of the industry. Factories which have been down for some time are re-opening, with smaller forces than usual but nevertheless re-opening and producing cars.

Such a situation may result in a shortage of new cars in the spring but if such happens the dealer will be given an opportunity to dispose of the used cars which have been accumulating since the price cuts began and unless such a boon does come the dealer may be confronted with an even more serious situation than now faces him in getting rid of the used cars on his hands without making a great sacrifice.

Improvement in credit conditions necessarily will be gradual. The situation in the agricultural districts must continue to cause some concern. Low prices for crops and the disposition of farmers to hold their produce until there is a better market affects the entire situation. Country banks which have been withholding loans for the sale and purchase of automobiles are tending toward more liberal treatment of their customers but the treatment is not yet liberal enough to loosen the tension materially. How soon this change will be marked is dependent upon the releasing of credits through the unloading of crops.

Somewhat the same situation that affects the farmer in the Middle West affects the cotton grower in the South. There cotton cannot command its own price as it did formerly and growers are entering more and more into the movement to

(*Concluded on next page.*)

# Trade Revived By the New York Show

## *Increase of Sales in City and Suburban Towns Noted During Week Following Display — Better Feeling Among Dealers and Salesmen*

NEW YORK, Jan. 24—The week following the New York Show has brought an inspiring revival in automobile sales, wholesale and retail. A canvass of a majority of the distributors and factory branches shows that cars have been moving in much better volume than in November and December and in a number of places retail sales of the past week, nearly all traceable to the show, have exceeded in volume deliveries for the entire month of December.

Distributors and factory branch managers generally are agreed that dealers in the territory have a new lease of life. There were a good many show visitors from the territory, particularly from the suburban towns of New York, New Jersey and Connecticut, and the names of "foreign" prospects promptly delivered to dealers in the outside towns, have already yielded an encouraging number of sales. Outside dealers who have been into New York or have written in since the show say that the ice has been broken and their towns are showing unmistakable signs of a steady, though gradual return of buying.

In the retail end there has been a noticeable revival in the metropolis itself. There are more people in the salesrooms than at any time since October, some have bought during the week and others are definitely in the market for March or April delivery. Sales this week have naturally been in most cases for February delivery to save the owner from obtaining a 1920 license, which expires at the end of this month. As an instance of the "pick-up" in sales, one car in the $2500-$3000 class had six sales this week, more than in all of December and one in the low priced class had six a day the first four days following the show. All along the line there have been some sales and both in personal contact of salesmen and through mail efforts there has been an encouraging response to work on prospects listed at the show.

All along the row, in addition to actual sales and perhaps more important, there is a better feeling among dealers and salesmen. Nobody is looking for business equalling the 1920 volume, but everybody is confident that a reasonable business is attainable and everybody is cheerfully working to get his share.

Truck sales have picked slowly ever since the first of January. Business is far from normal but it is surely improving.

There are more used car inquiries than there were before the holidays and dealers have been able to take in used cars at more favorable prices than prevailed the last of last year. This is always the case as spring approaches and the hankering for a new car becomes stronger and dealers are finding encouragement in this fact itself.

The New York Show, never a big selling show, has done a lot for the trade this year and even the most conservative distributors are paying it a tribute.

# *Cleveland Show Indicates Buying Movement Is Here*

CLEVELAND, O., Jan. 24.—A Saturday attendance, in spite of rain, 20 per cent above the opening day last year and a Sunday crowd which exceeded all Sunday records gave the Cleveland automobile show a flying start. The management and the dealers are frankly surprised at the out-pouring with the admission raised from fifty to seventy-five cents and accepted it as an indication that volume buying is about to return. The show opened in a heavy downpour which only partially cleared away in the evening, but the people came just the same.

Actual paid admissions at the gate were 2076 as compared with 1954 last year and the grand total of attendance, including complimentary and reduced price tickets sold to dealers for distribution was 6000 as against 5000 in 1920. Sunday was clear and cold and the crowds appearing soon after noon thronged the aisles until 11 p. m. numbering about 50 per cent above that of Sunday last year.

There were a number of sales Saturday. Then the big trade rally this noon, attended by dealers from all over Ohio, put additional inspiration into the trade to make this one of the best shows of successful dealer expositions which has been held in this city.

## *Is Business Returning to Stay?*

(*Concluded from preceding page.*)

convert the vast cotton plantations into diversified farms so that they shall not have to rely solely upon cotton and so that their prosperity will not be entirely dependent upon that commodity and the prices it can command.

The sale of motor trucks will depend chiefly upon the activity shown in the purchasing of commodities. The more goods that a manufacturer or dealer sells the more will the motor truck be called into service. The public must clothe itself and it must begin soon. Its clothes are beginning to wear out and it is beginning to feel the need of a good many essentials which it has put off acquiring until such a time as it was actually driven to it—always with the hope that by that time the period of reduced prices would have arrived. Conditions among the farmers, who use motor trucks on the farm, to a large extent will affect the truck market.

So it will affect most appreciably the sale of tractors. Tractor manufacturers are well stocked with machines. They have large inventories which they have not been able to liquidate as many other manufacturers have been able to do, and in some cases they will not have to enter into production for some months, so large is the supply and so small is the present demand.

# CHICAGO ALL READY for SHOW

## Dealers Will Gather in Force to Participate in Convention Activities and to See Actual Results of Earlier Exhibit in New York

CHICAGO, Jan. 21—Chicago is ready for the twenty-first annual automobile show which will be held from Jan. 29 to Feb. 5 and which will play as important a role in the revival of business in the automobile industry as that held at New York several weeks before. Enthusiasm is being manifested outside strictly dealer circles and beyond the confines of automobile row for local merchants, theatres, and restaurants have not escaped hearing of the achievements of the New York show on conditions in that city.

The Chicago show will probably hold greater attraction for the dealer than even that of New York for it will see staged various activities which through the very nature of things belong to the banner convention city of the country. The city is going to live up to its convention reputation and it is going at it strong—with all the vim, energy, vigor, etc., that conditions at this time demand. Too, the dealer will be able to get a better idea of how business is going, if the momentum gained at the New York show will continue and will see more clearly the actual benefits from the Eastern exhibit.

There will be plenty going on all the time from the afternoon the doors of the show at the Coliseum, First Regiment Armory and the new Drake hotel, where the salon will be held, are thrown open. The truth of the matter is that business in connection with the show will start the preceding night, Jan. 28, with a dinner given at the new Drake by the Chicago Automobile Trade Association.

Primed for the business talks that will attend the dinner through the display advertisements which will be inserted in all Chicago newspapers for a week prior to the show, the distributors and their guests will be in good shape to absorb the arguments of such men in the industry as A. R. Kroh. Louis A. Peil, president of the association, will be the toastmaster and there will be a prominent Chicago banker to discuss the financial end of the industry.

From Jan. 31 to Feb. 1 the fourth annual convention of the National Automobile Dealers Association will be held at the Hotel La Salle, the third annual trade frolic to be held in connection with it. There will be a wealth of talent at the convention and the usual good times to be enjoyed by all at the frolic. Harry G. Moock, general manager of the association, has made arrangements whereby members of the association can come in from their homes on the railroads for half fare. This will insure a good attendance if any special inducements were necessary to gather in the dealers from all sections of the country.

On Feb. 1 the annual dinner and election of officers of the Old Timers' Club will be held in the Florentine room of the Congress hotel. This organization, composed exclusively of veterans in the automobile industry, was initiated at the New York show a year ago by one of the old timers. So rapidly did the idea spread and take hold that today there are something like six thousand members. The organization will be perfected at the meeting next month. The nominating committee has selected for president, Albert Champion, president of the Champion Ignition Co., of Flint, Mich., who has been identified with the industry for more than twenty years and who at one time was a race driver in France. To become a member of the organization one must have been associated with the industry for at least five years. Two thousand old timers are expected to sit down at the dinner.

Show week, Jan. 31, to be precise, will see the inauguration of a national tire dealers and vulcanizers association which will bring together all the individual tire dealer organizations throughout the country. The meeting will be held in the Morrison hotel under the auspices of the Chicago Tire Dealers' Association and will continue over Feb. 1 and 2 and Feb. 3, if necessary.

The directors of the National Automobile Chamber of Commerce will hold a meeting on Feb. 2 and on that evening the annual dinner of the Society of Automotive Engineers will be held at the Morrison.

On Feb. 1 at the Congress the Motor Truck Manufacturers' Association will hold their annual meeting and on the following day at the Morrison will be held a meeting and dinner of the Chicago Truck and Tractor Association.

For three days, Feb. 2 to 4, the Automotive Electric Service Association will meet at the La Salle.

### What Will Be Going on During Show Week

**PROGRAM**

**FRIDAY, JAN. 28**

6:30 p. m.—Dinner of Chicago Automobile Trade Association at New Drake Hotel.

**SATURDAY, JAN. 29**

10:00 a. m.—Directors' meeting of the National Automobile Dealers' Association, Hotel La Salle.

2:00 p. m.—Opening of Twenty-first Annual Automobile Show.

**MONDAY, JAN. 31**

10:00 a. m.—Opening of annual convention of N. A. D. A. at La Salle.
Opening of convention of tire dealers at Morrison Hotel.

6:30 p. m.—Trade frolic of N. A. D. A.

**TUESDAY, FEB. 1**

11:00 a. m.—Annual meeting of Motor Truck Manufacturers' Association at Congress Hotel.

6:30 p. m.—Organization of Old Timers' Club at Congress.

**WEDNESDAY, FEB. 2**

Directors' meeting of the National Automobile Chamber of Commerce at the Congress.

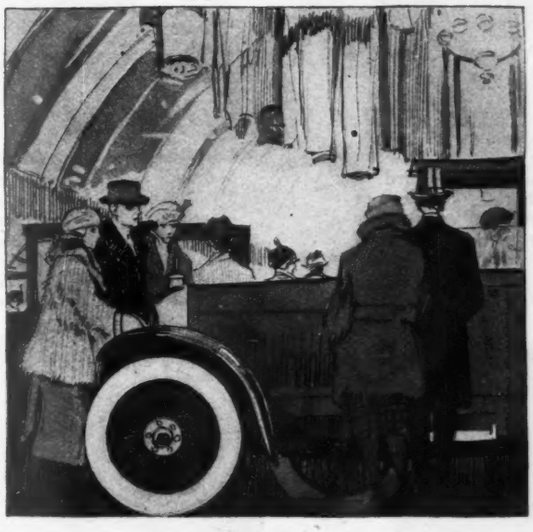
Annual dinner of the Society of Automotive Engineers at the Morrison.

Meeting of the Chicago Truck and Tractor Association at the Congress.

Opening of meeting of the Automotive Electric Service Association at the La Salle.

# MOTOR AGE'S

# 18th NATIONAL PASSENGER CAR SHOW



*BACK in 1904* MOTOR AGE *realized that it manifestly was impossible for all persons connected with the automotive industry or interested in what the industry was developing to visit the national shows like those held in New York and Chicago. Consequently this paper set about to publish once a year a picture gallery of all the various car models manufactured by the American makers. With each set of pictures is a short description of cars, together with a notation of the important changes for the coming year. By this means the dealers are afforded the opportunity of seeing at a glance what the industry has to offer. Prices are the latest but subject to change*

# The 1921 CARS IN BRIEF

*IN order that our readers may get a perspective view of what the industry has to offer in the way of cars for 1921 MOTOR AGE presents on the following pages a picture gallery together with a digest of the body styles offered by the various American car manufacturers. It is impossible to publish each and every body style offered because some of the manufacturers announce new models at the shows and data on these is not always available in time to get into this section. Additions to the line are described usually in connection with the New York and Chicago show reports. Rather than group the models according to body styles, we have arranged them as to manufacturers in the belief that dealers would find the information in this form more convenient*

## TWELVE-CYLINDER CARS

Haynes Packard

## EIGHT-CYLINDER CARS

| | | | | | |
|---|---|---|---|---|---|
| Apperson | Cole | Daniels | Lafayette | Oldsmobile | Standard |
| Cadillac | Cunningham | King | Lincoln | Peerless | |

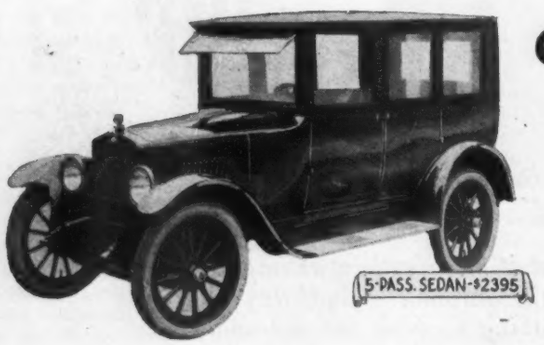
## SIX-CYLINDER CARS

| | | | | | |
|---|---|---|---|---|---|
| American | Comet | Hanson | Liberty | Norma | Reo Roamer |
| Anderson | Crawford | Haynes | Locomobile | Oakland | R. & V. Knight |
| Auburn | Crow-Elkhart | Hollier | Maibohm | Ogren | Saxon |
| Beggs | Davis | Holmes | Marmon | Oldsmobile | Sayers |
| Bour-Davis | Dorris | Hudson | McFarlan | Owen Magnetic | Scripps-Booth |
| Buick | Economy | Huffman | Metz | Paige | Sheridan |
| Cameron | Elcar | Jackson | Mitchell | Pan | Stephens |
| Case | Elgin | Jones | Monitor | Paterson | Studebaker |
| Chalmers | Ferris | Jordan | Moon | American Piedmont | Velie |
| Chandler | Franklin | Kissel | Moore | Pierce-Arrow | Westcott |
| Cleveland | Geronimo | KlineKar | Nash | Pilot | Winther |
| Columbia | Grant | Lexington | National | Premier | Winton |

## FOUR-CYLINDER CARS

| | | | | | |
|---|---|---|---|---|---|
| Allen | Chevrolet | Essex | Lorraine | Olympian | Sheridan |
| Argonne | Commonwealth | Ford | Marshall | Overland | Skelton |
| Bell | Crow-Elkhart | Gardner | Maxwell | Phianna | Stearns |
| Biddle | Dixie Flyer | Harroun | Mercer | Piedmont | Stutz |
| Bradley | Dodge Brothers | Harvard | Meteor | Porter | Templar |
| Brewster | Dort | Hatfield | Monroe | ReVere | Tulsa |
| Briscoe | du Pont | H. C. S. | Nash | R. & V. Knight | Willys-Knight |
| Champion | Elcar | Hupmobile | Nelson | Seneca | |

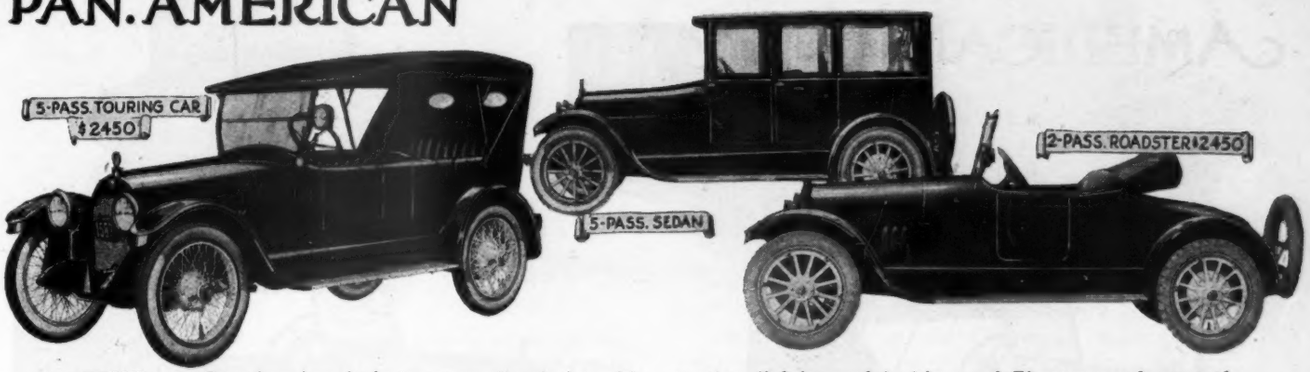
## ALLEN




*THE Allen Motor Co., Columbus, Ohio, will exhibit at National Automobile Shows with practically a new line for 1921. During the interim between the present show and the show of 1920 an improved sedan has been worked out and a convertible car known as the Allen Artcraft has been newly developed, while within the past few weeks an entirely new model has been added in the Allen Business car, a three-passenger roadster built along the same lines as previous models.*

*The touring car featured at last year's shows remains practically unchanged excepting a few refinements such as gypsy curtains, new robe rail, additional nickel-plating, etc. The Allen line is now more complete than at any time in its history.*

# PAN. AMERICAN




*THE 1921 Pan-American body is a streamline design with low panels and high cowl. It comes in maroon, gun metal gray, light blue and dark blue. Its wheelbase is 121 in. and road clearance 10 in. In its make-up it uses a Herschell-Spillman six-cylinder engine, Borg & Beck clutch. Detroit transmission, Timken axles, Westinghouse starting, lighting and ignition, and Firestone 33 by 4 cord tires. Wick oiling devices are used in the spring shackle bolts and also on the steering knuckle pins. The company is building a two-passenger roadster, five-passenger touring car and a seven-passenger sedan; also equipping the five-passenger touring car with a special Artcraft top.*

# APPERSON

*THIS company is continuing to devote the entire production of its two plants to the exclusive manufacture of eight-cylinder models.*

*The Apperson Anniversary model is being continued along with the Standard model.*

*The Anniversary model is furnished in both seven-passenger touring car and four-passenger tourster, listing at $4250.*

*The Standard model is built in the seven-passenger touring and four-passenger sportster, listing at $3500.*

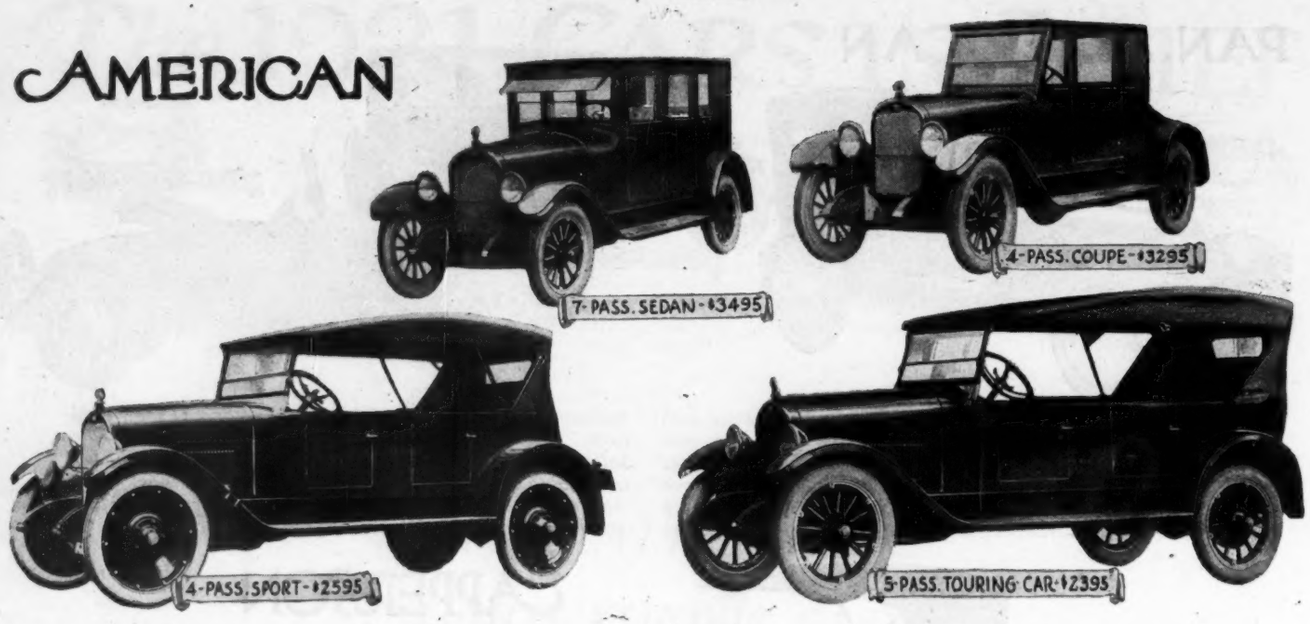
*The two enclosed models—seven-passenger touring sedan and the four-passenger Sedanette—are listed at $4500.*

*The new Apperson bodies present the latest trend in design and carry the best equipment.*

# AUBURN

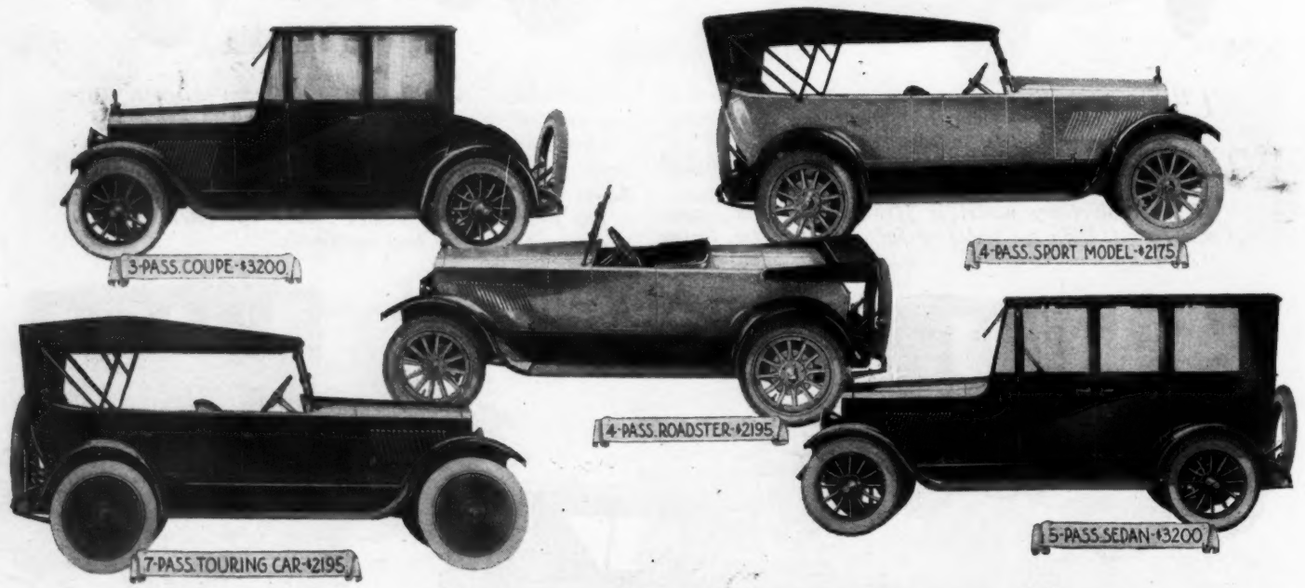
***THE 1921 Auburn chassis remains the same. Five body types with practically unchanged lines are offered; a five-passenger touring; four-passenger roadster; five-passenger sedan; four-passenger coupe and a two-passenger roadster. Finish is royal blue, purple lake or auburn gray for bodies and hood, with the fenders and trimmings black enamel. Rolls Royce blue is now standard color for the roadster.***

# AMERICAN




*LENGTHENING of the wheelbase from 122 in. to 127 in. with a higher radiator and a more imposing hood comprise the changes in the American for 1921. All in all the new car is larger and more commodious throughout. A frame having integral running boards, which construction uses a very wide running board and deep channel section is used which reduces frame weave. The weight of the car is balanced exactly on the four wheels. The power plant is a six block cast measuring 3¼ by 5 in. The clutch is Borg & Beck and the transmission is Grant-Lees. Springs are all semi-elliptic with Hotchkiss drive. The front end of the rear springs are hung inside the frame from a substantial cross member. All body trimmings are nickel plated over brass which makes them rust proof. Alemite grease pressure lubrication was added for this year's models.*

# ANDERSON




*SIX styles of bodies designated as Series 4 O on one chassis is assembled of standard units which the trade is well familiar with such as Continental of 3¼ by 4½ in., Borg & Beck clutch, Durston gearset and Salisbury axles. The universal joints are flexible disk made by Thermoid Hardy. The wheelbase is 120 in. Car bodies consist of a convertible job of two and five-passenger, five-passenger touring car, seven-passenger touring car, four-passenger sport car, a four-passenger coupe and a five-passenger sedan.*

# BREWSTER

*SEVERAL minor changes have been made in the design of the Brewster car but in the main the car stands as previously built. The Brewster has changed to a Stromberg carbureter and Berling magneto, still maintaining the U. S. L. starting and lighting system. The Brewster is not an assembled car, virtually all of it being built by the company.*

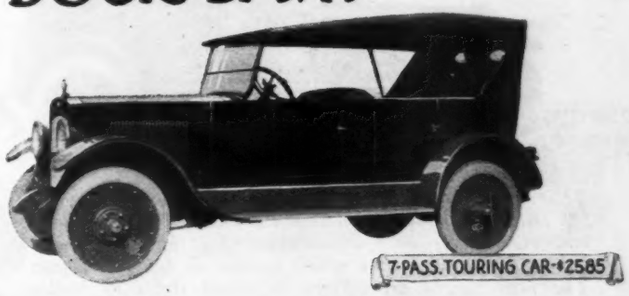
## BROOK

THE Brook car is featured with a 90 in. wheelbase and 46 in. tread. The engine is a two-cylinder air-cooled V type 3½ by 3⅝ in. It is mounted crosswise in the frame and has in unit with it a two-speed selective type gearset. The car complete weighs 840 lb. and the gasoline mileage is said to be from 40 to 50 miles to a gallon. The tires are 28 by 3 in. The speedster type of body has been discontinued and an all-weather type furnished in its place. complete equipment includes electric lights, storage battery, extra wheel, etc.

## ACE

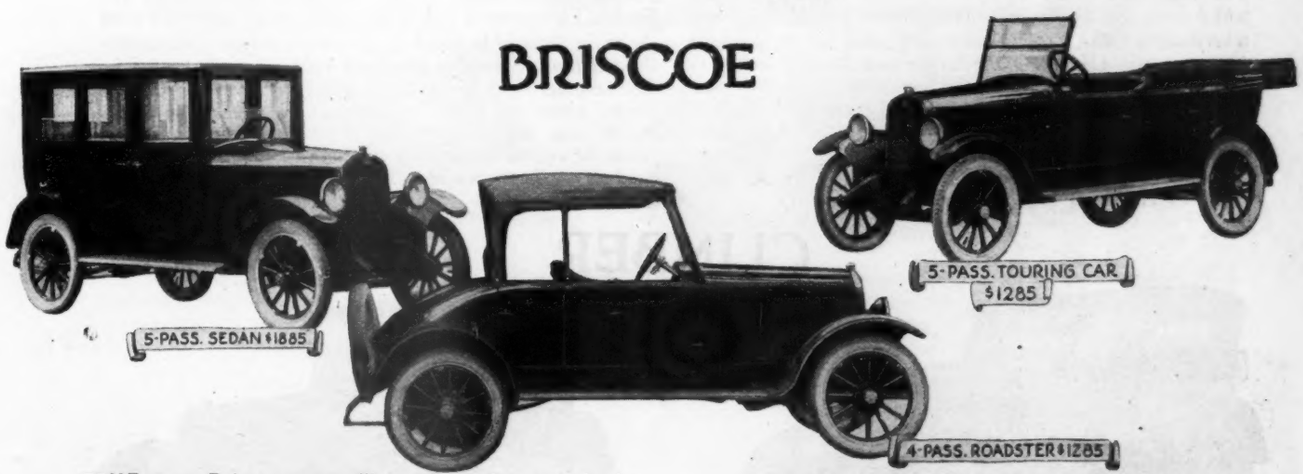
THE Apex Motor Corp. is placing the Ace car on the market featuring a new Disk-valve engine. This engine is a six cylinder job incorporating a new valve action. It is a development of the disk valve principle, the valves being in the heads of the cylinders and operating at one eight crankshaft speed. The valve which is somewhat the same shape as a Maltese cross, is keyed to the shaft as the gear which drives it. At present the car is being built in the touring and roadster form, selling for $2260.

## BOUR-DAVIS



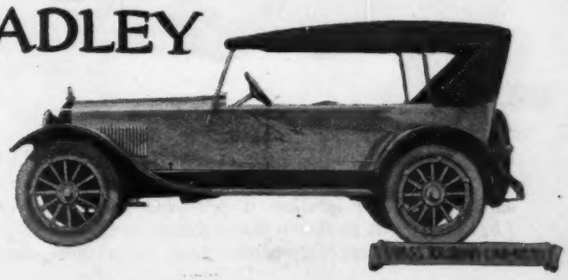

BOUR-DAVIS will have for 1921 a three-passenger roadster and a seven-passenger touring car. Both are mounted on the same chassis having a 126-in. wheelbase. There are no radical changes in the chassis. This car uses the Continental 9 N engine, Muncie clutch, Muncie gearset, Spicer universals, Westinghouse starting and lighting and Salisbury rear axle. The tire size is 33 by 4½ in. Stock equipment includes speedometer, Firestone rims, curtains opening with doors, non-glare lenses, etc.

## BRISCOE



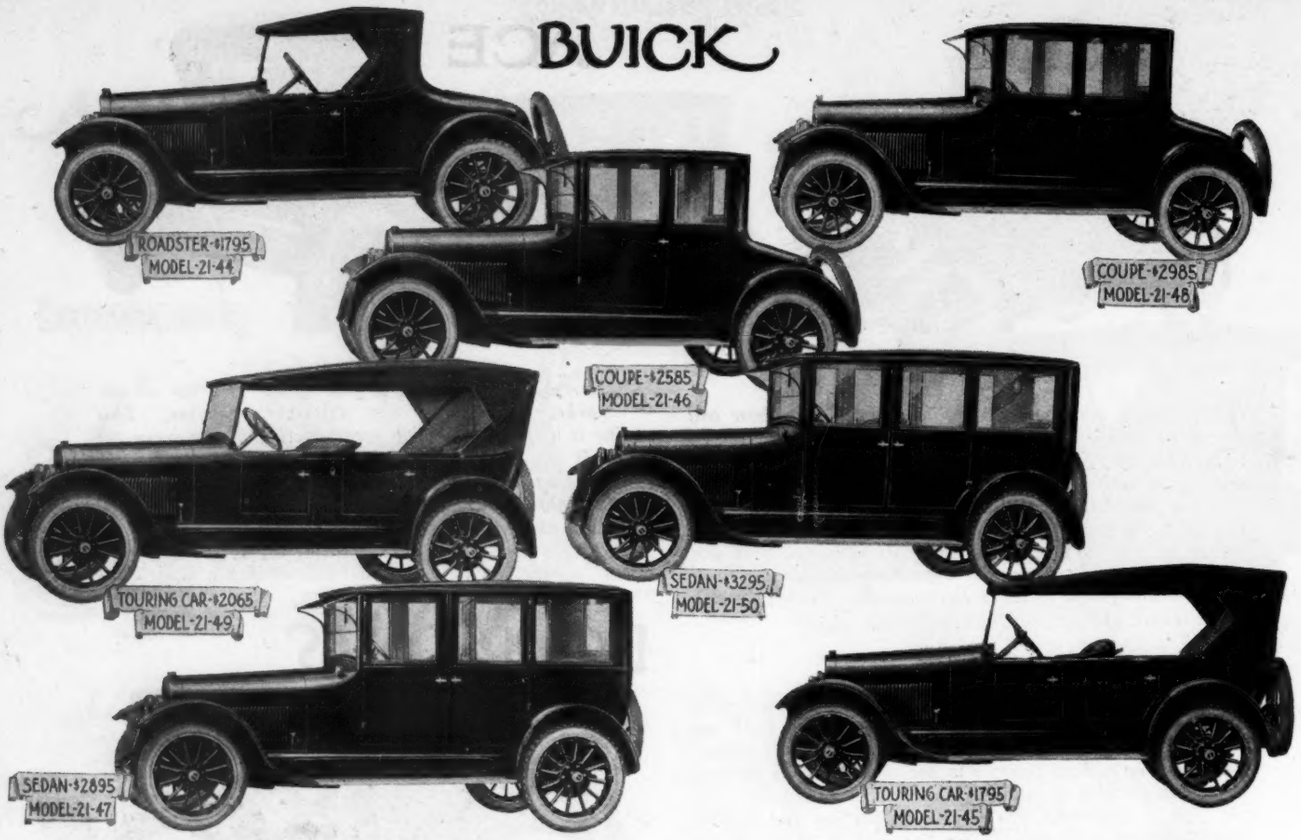

THE 1921 Briscoe cars will continue along much the same lines as the 1920 models. A Boyce motometer has been placed on all models and plate glass rear windows are now standard equipment on all open models. All chassis are lubricated with the Ireland & Matthews system of lubrication.

## BRADLEY



THIS is a five-passenger touring car fitted with a Lycoming 3½ by 5 in. engine equipped with Westinghouse electric system, Exide battery, Connecticut ignition and Carter carbureter. Dash equipment includes an eight-day clock and trouble lamp. The clutch is a Borg & Beck and the transmission a Grant-Lees. The wheelbase is 116 in. with semi-elliptic springs. The axle is a three-quarter floating. The bodies are made in the Bradley factory and have many special features. A California top can be had at an additional price.

# BUICK




*BUICK is represented by a new series of cars this year. The old familiar model which had the sloping hood and bonnet has been discontinued for the straight-line bonnet and cowl section which is now so much in vogue. The new Buicks are offered in seven styles of bodies which are mounted on one standard chassis, which has two wheelbase lengths, 124-in. and 118-in., this for the purpose of better accommodating the larger and smaller bodies to their chassis. The body styles include a three-passenger roadster, five-passenger touring, four-passenger coupe, five-passenger sedan, (these being mounted on the smaller chassis) and a four-passenger coupe, seven passenger touring, and a seven-passenger touring model, (these latter being mounted on the large wheelbase chassis).*

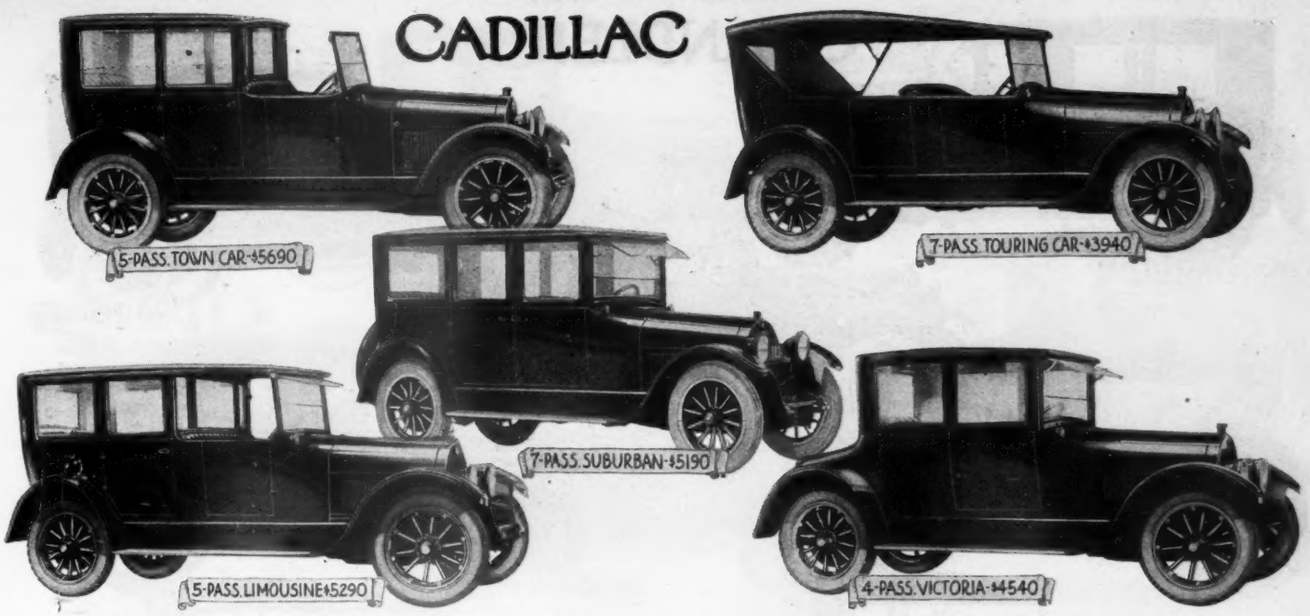
*The four passenger coupe mounted on the larger chassis is a distinctly new model, created for those who desire a small car but slightly more commodious than the small coupe. Refinements seen in the new Buick are many and include improvements in such things as door handles and latches. Body work has been considerably improved with the main thought in mind of providing greater substantiality and thus preventing annoying rattles from creeping in. The engine no longer uses a separate chamber for the timing gears for heavy oil lubrication of these members but is now designed so that the timing gears are oiled from the engine lubricating system. Larger wrist pins are used as are improved means to secure the wrist pin in the piston.*

# CLIMBER

*THE 1921 Climber presents two chassis models one having a wheelbase of 120 in. and powered with a Herschell Spillman 3¼ by 5 engine the other a wheelbase of 177 in. and powered with a 3½ by 5 engine of the same make. Magneto ignition is provided for both engines. The six is built in two types, a five-passenger touring and two-passenger speedster; the four in a two-passenger roadster and a five-passenger touring complete the list.*

*All bodies are finished in full leather. A one-piece windshield with side shields is provided and the instrument board has been worked out in complete detail. The disk tire carrier is a new design with a compartment that is capable of carrying an entire tool set. The same refinements are continued in the bodies for both models.*

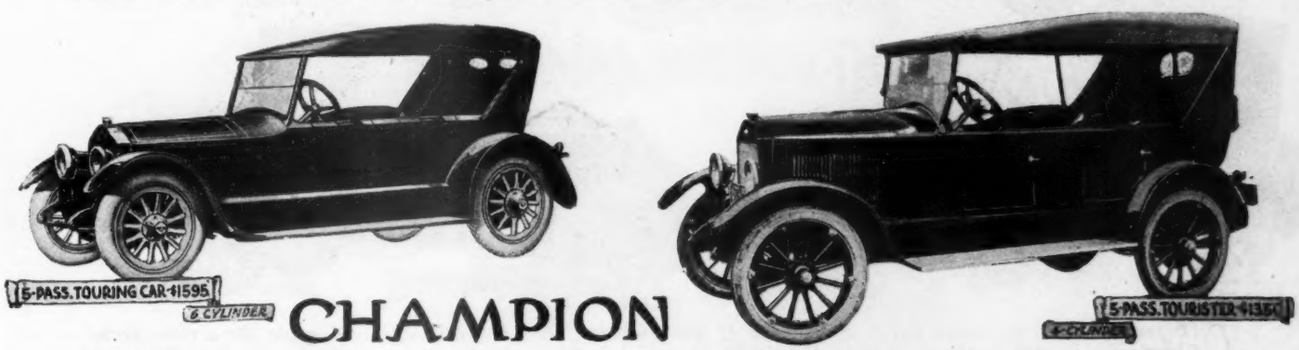
# CADILLAC




*IN accordance with this company's policies for the last five years, there is no radical change in the 1921 Cadillac with its usual quota of open and closed models, all mounted on the type 59 chassis. The engine is an eight-cylinder with bore and stroke of 3⅛ by 5⅛ in. The general contour of the body remains the same. The headlights are provided with a tilting reflector. Interior refinements are present as in the previous year.*

# CASE

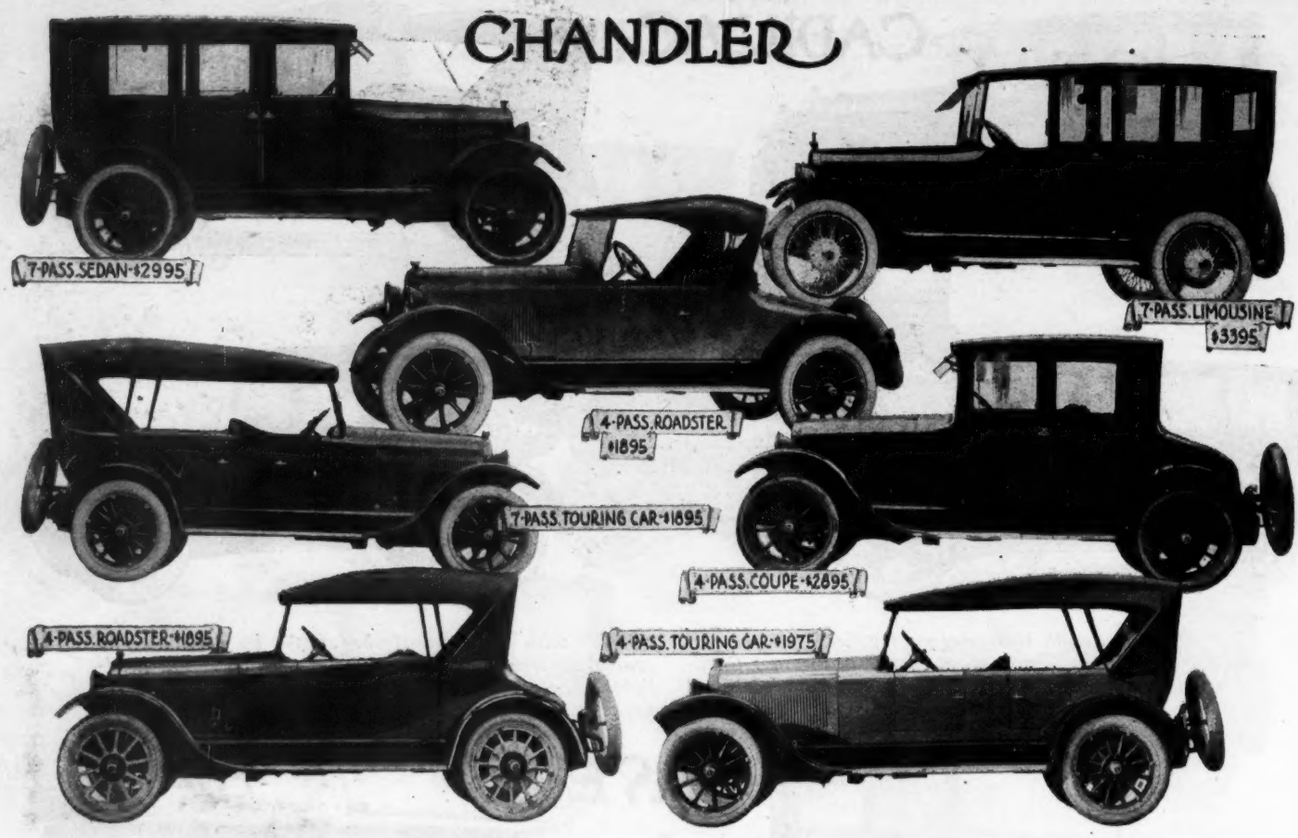
*CASE for 1921 remains virtually the same. A new five-passenger model is to be placed on the market at $1750 but mechanical details are not available at this time. The standard 126-in. chassis presents no important mechanical changes. Four body types furnished are, seven-passenger touring, seven-passenger sedan, four-passenger sport, and four-passenger coupe. One of the features of the new Case is the deeply crowned fenders.*




# CHAMPION

*THE Champion line which consists of two models one having the Lycoming engine and the special model having a Herschell Spillman engine, both being fitted with several types of bodies, is continued this year sustantially the same as last year. Both cars have four-cylinder engines each measuring 3½ by 5 in. The chassis construction of the two models is practically the same as far as the make of units is concerned. One change made this year is the adoption of Zenith carburetor as standard on both models. Last year the special model used a Carter.*

# CHANDLER

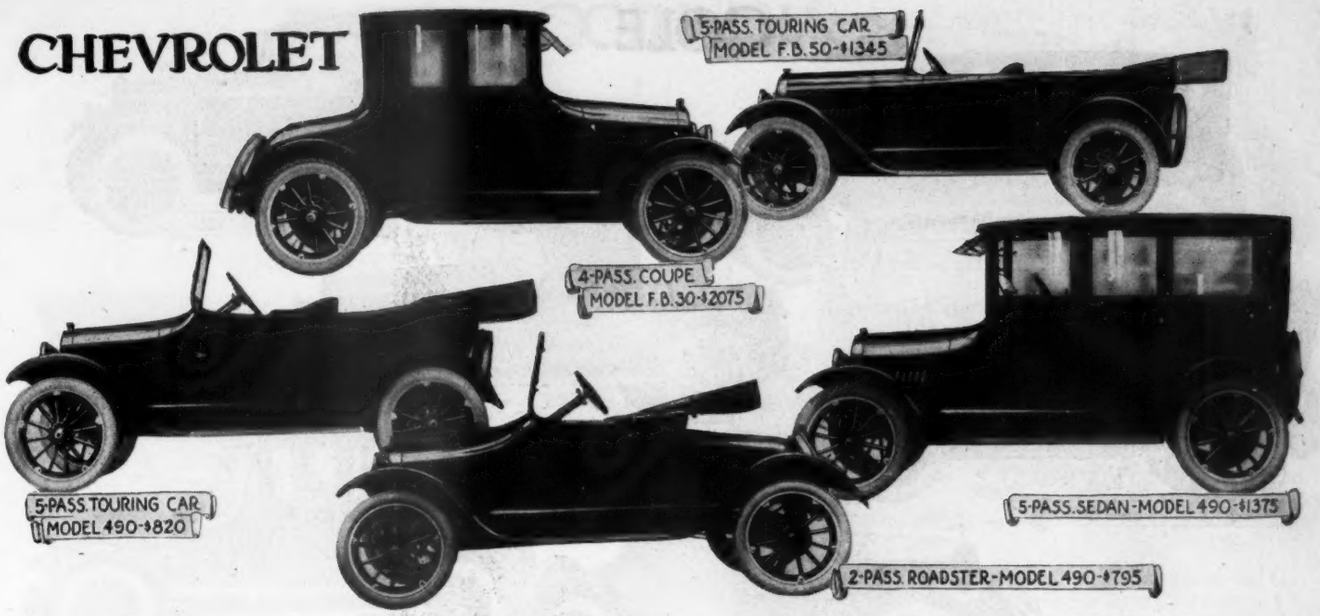



*THE Chandler line for 1921 remains practically the same with the addition of a two-passenger roadster. Although the new roadster is strictly a two-passenger car, it is so designed as to have liberal luggage space, both directly behind the seat and in the spacious rear deck. The body hood and radiator of this model are finished in a dark gray and the running gear, fenders and wheels are in black. The limousine for 1921 is provided with a bevel ledge along the outside of the windows. The interior appointments include a mahogany panelling, an autophone; mahogany smoking and toilet cases; dome reading and step lights, and nickled coat hooks. The body lines of all of the models remain about the same but some refinements have been added.*

# CLEVELAND

*THE touring, roadster, sedan and coupe models of the Cleveland Six will continue in 1921 practically unchanged. All are mounted on the standard chassis powered with a six-cylinder valve-in-head engine of 3 by 4½ in. Hotchkiss drive is used. The rear axle is a floating type with distinct features of accessibility. A transmission hand brake is employed while the service brake is of the contracting type on the rear axle. The open models are upholstered in genuine leather and the closed cars are in gray plush. The bodies are finished in Cleveland blue; the hood, fenders and wheels are black. Equipment is complete.*

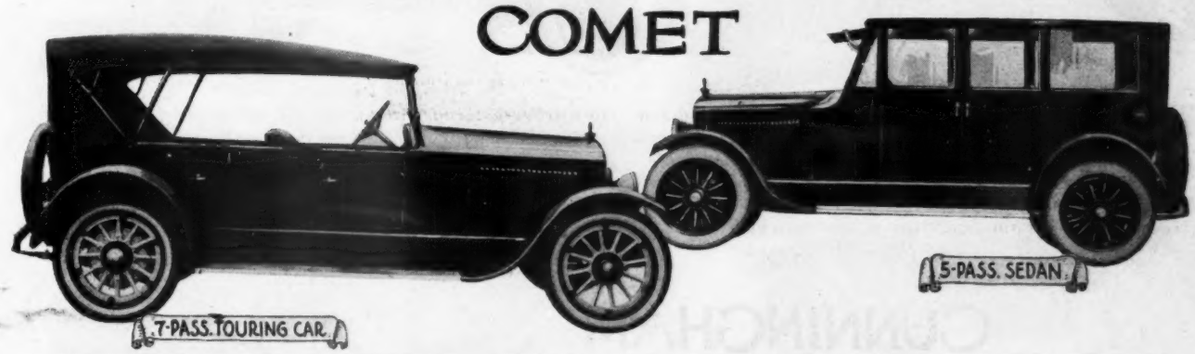
# CHEVROLET




*THE model Four-Ninety and FB Chevrolet will be continued this year. The Four-Ninety chassis having a wheelbase of 102 in. is powered by a four cylinder valve-in-head engine 3 11/16 by 4. The FB having a wheelbase of 110 in. is provided with a similar type power plant 3 11/16 by 5¼. A cone type clutch, selective transmission and three-quarter floating axle are employed in both models. The larger engine is provided with a new hot spotting device and the general oil pump is now external.*

*The springs are cantilever type both front and rear. The smaller engine has a gravity fuel feed and the larger vacuum feed. The five-passenger touring, two-passenger roadster, five-passenger sedan and two-passenger coupe bodies mounted on the Four-Ninety chassis will continue. The FB offers a four-passenger coupe body in addition to the touring car, roadster and five-passenger sedan.*

# COMET

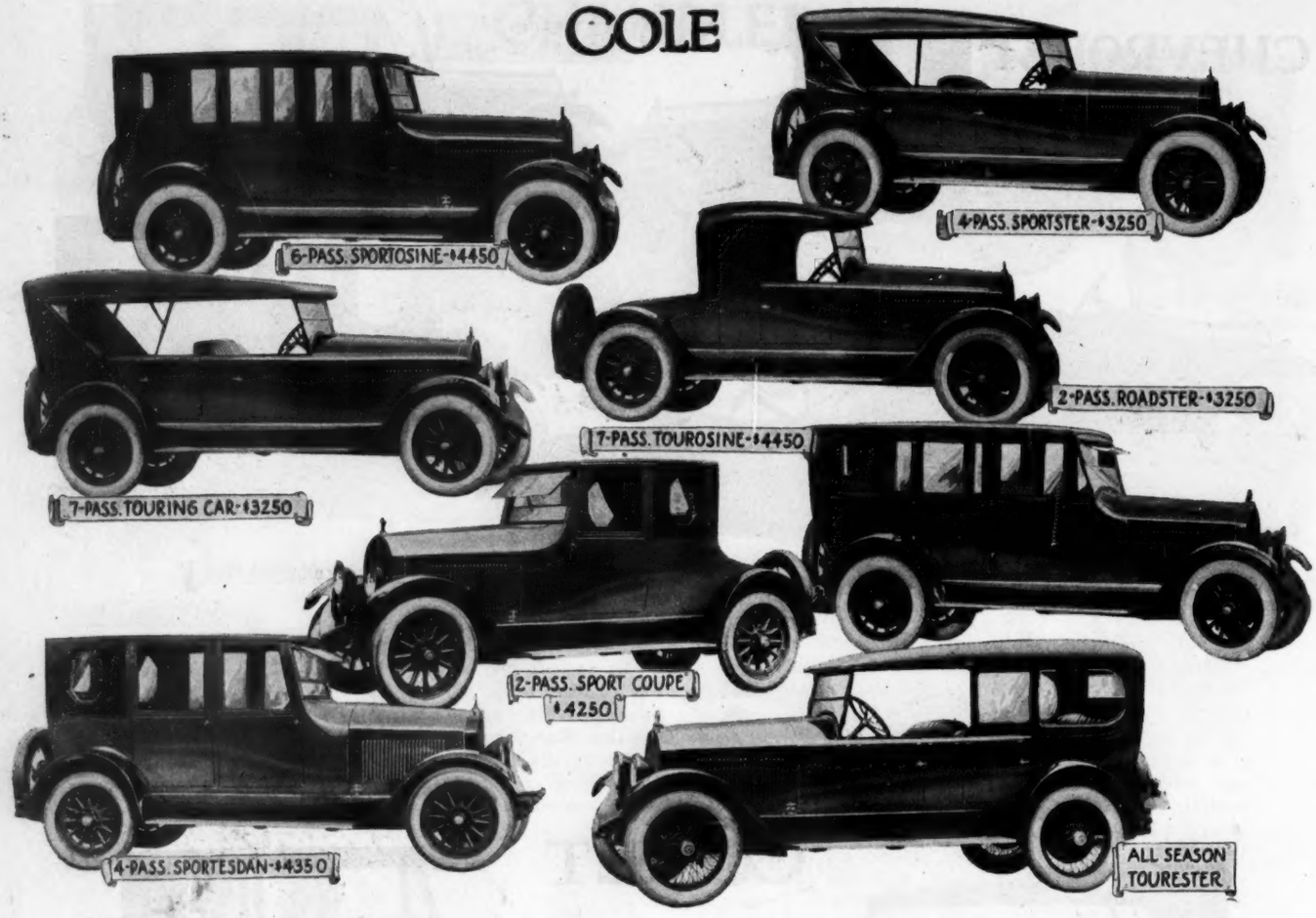



*THE Comet Six model C-53-2 is an entirely new chassis design the details of which have not been formally announced. The 7 R Continental 3½ by 5¼ has replaced the model 9 N engine. The frame construction has been changed and conventional semi-elliptic springs are used both front and rear. Features of design have been incorporated in the chassis which make it much more accessible than the previous model. Four body models are offered, a five and seven-passenger touring, five-passenger sedan and a four-passenger coupe.*

# COMMONWEALTH

*THE 1921 Commonwealth chassis is provided with a new unit power plant composed of a 3½ by 5 four-cylinder Herschell Spillman engine equipped with magneto ignition, a Borg & Beck clutch and a Muncie transmission. The Carter carbureter is used with a special hot-horned manifold. With the exception of longer and wider front and rear springs the 117 in. wheelbase chassis remains the same. The standard five-passenger touring model body lines are identical, all sheet metal parts finished in black with the body and wheels Commonwealth green. A new five-passenger sedan has been added that embodies refinements in equipment and finish.*

# COLE




*THE Cole Aero Eight chassis continues with no marked changes. The constant piston clearance introduced some months ago and the thermostatic controlled water circulating system are the refinements of design that have been incorporated. A very complete line of bodies includes ten models ranging from a two-passenger roadster to a seven-passenger limousine. A seven and four-passenger model are now offered equipped with a California top. No marked changes in body lines will be noted but a number of refinements have been added to enhance the comfort and beauty of the interior of the cars. Equipment is complete in every detail.*

# CUNNINGHAM

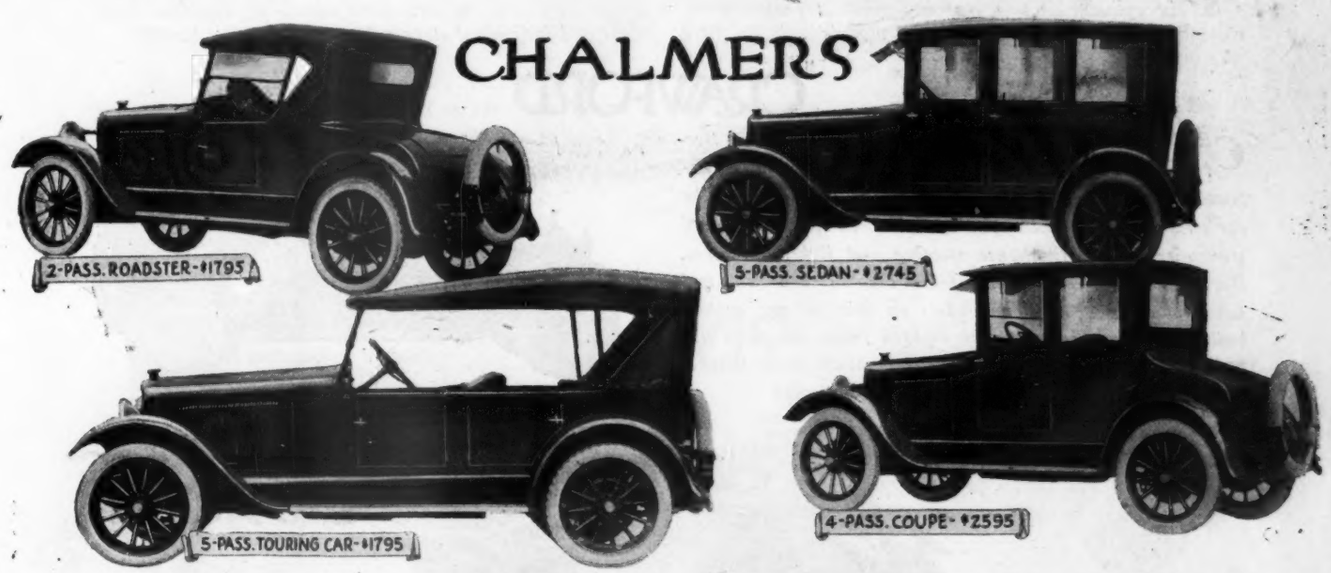
*THERE is very little change in the 1921 Cunningham. The eight-cylinder engine has the largest piston displacement of any twin engine of American made cars. A feature of these cars is the sod pan which extends underneath the car for its entire length. The spare tires, instead of being carried on the rear, are now placed on the side of the car. Only the trunk rack is on the rear. The open body styles include a four, six and seven-passenger touring car and a special four-passenger roadster of the speedster type, capable of 85 m.p.h. The closed cars are the town car, landaulet and limousine. All are on a 142 in wheelbase chassis. Semi-bevel lines are characteristic.*

# COLUMBIA

*THE Columbia chassis which is composed of well known units will continue this year without any mechanical changes of importance. The power plant is a Continental 3¼ by 4¼ engine. The car has a wheelbase of 115 in., is equipped with Disteel wheels and 32 by 4 tires.*

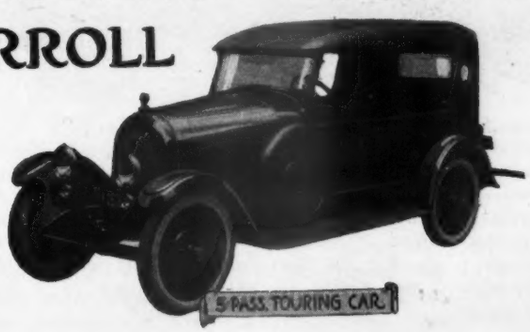
*A new five-passenger body fitted with a permanent top has been added. The newcomer sells for $1995 with steel disk wheels. The five-passenger touring, two-passenger roadster, and four-passenger coupe are retained without any noticeable changes.*

# CHALMERS



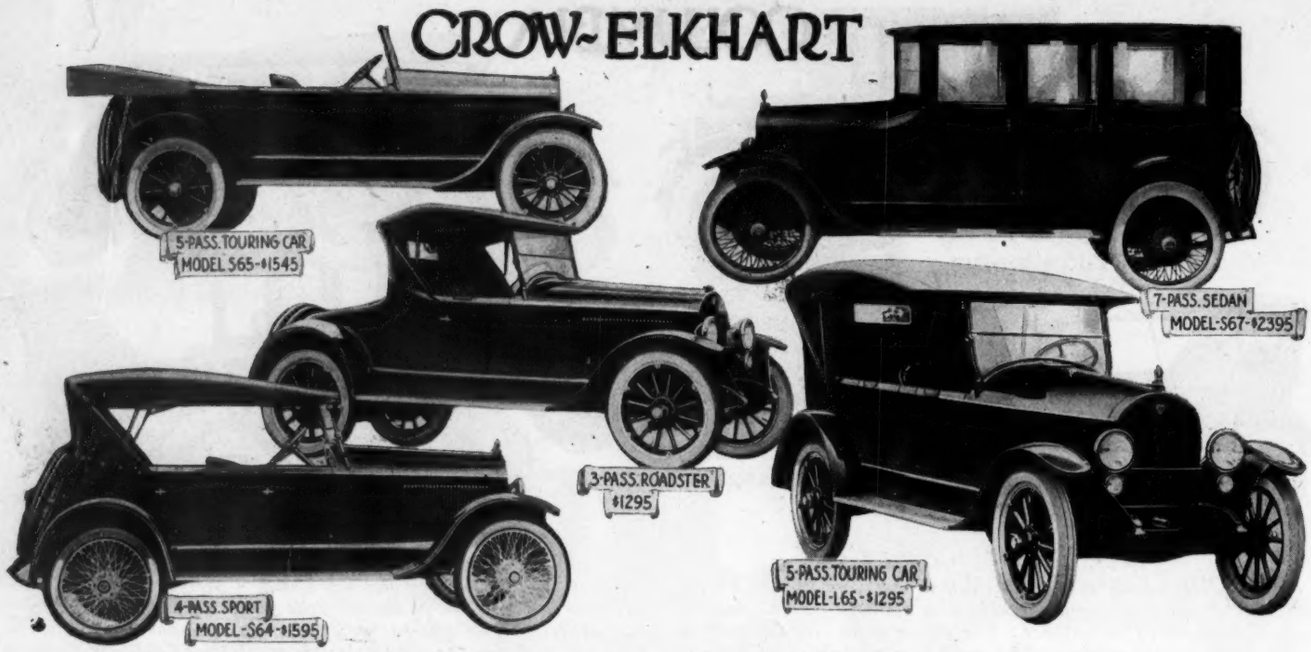

*BETWEEN the price range of $1795 and $2745 the Chalmers cars this year are presented in four body styles which include a three-passenger roadster, four-passenger coupe and two five-passenger jobs, one a touring and the other a sedan. The units of the Chalmers are completely manufactured in the company's factory. The engine, L-head 3¼ by 4½ in. has a removable head with a pressure oiling system. The Chalmers Ram's Horn and Hot Spot is continued from last year as a feature of the carburetion system to aid in the better vaporization of low gravity fuel. Thermosyphon cooling is used together with a two bladed airplane fan.*

# CARROLL




*THE new Carroll Six is distinctive in appearance and differs essentially from other cars in that the engine and radiator are set back of the front axle a distance of 7½ in. The power plant is a Rochester six-cylinder engine 3½ by 5 in. The clutch and transmission and the other chassis units are of standard design. The semi-elliptic springs are very long, the front being 42 in. and the rear 56½ in. in length. Hotchkiss drive is employed which means that the torque, braking and driving strains are taken through the springs. The electrical equipment comprises Bijur starting and lighting and KW magneto. Two body types are offered, a five-passenger touring and a two-passenger roadster both bodies mounted on a chassis having a wheelbase of 128 in. The bodies are of an aluminum construction and are upholstered in genuine leather. A permanent type of top is standard equipment on all jobs.*

# CROW-ELKHART

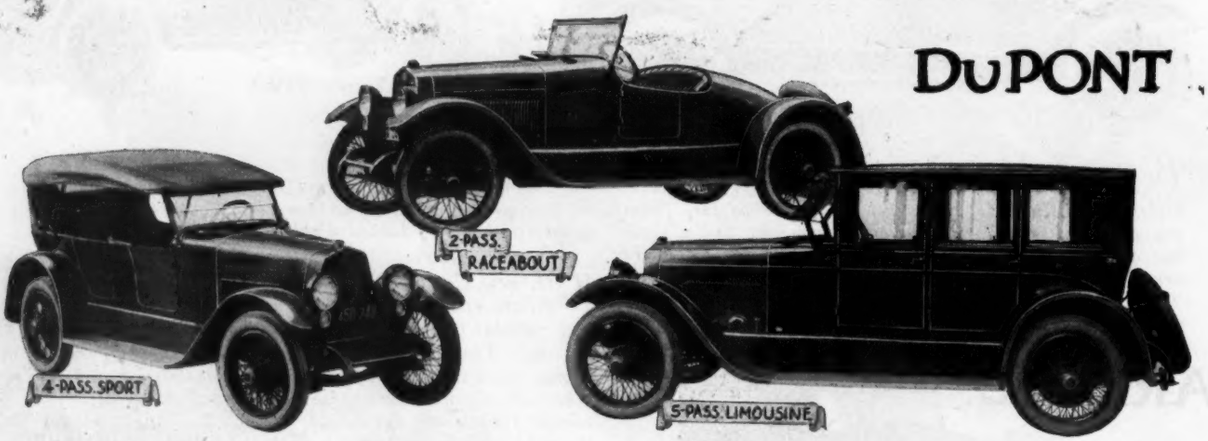



*NO changes have been made in the construction of the 1921 Crow-Elkhart. The Herschell Spillman 3¼ by 5 in. six cylinder engine is being used in place of the Rutenber engine. All six cylinder models will be fitted with a V shaped nickel radiator. The new special sport is now a standard model listing at $1595 in the four cylinder and $1845 in the six. Disk wheels are standard equipment and individual steps replace the running boards.*

# CRAWFORD

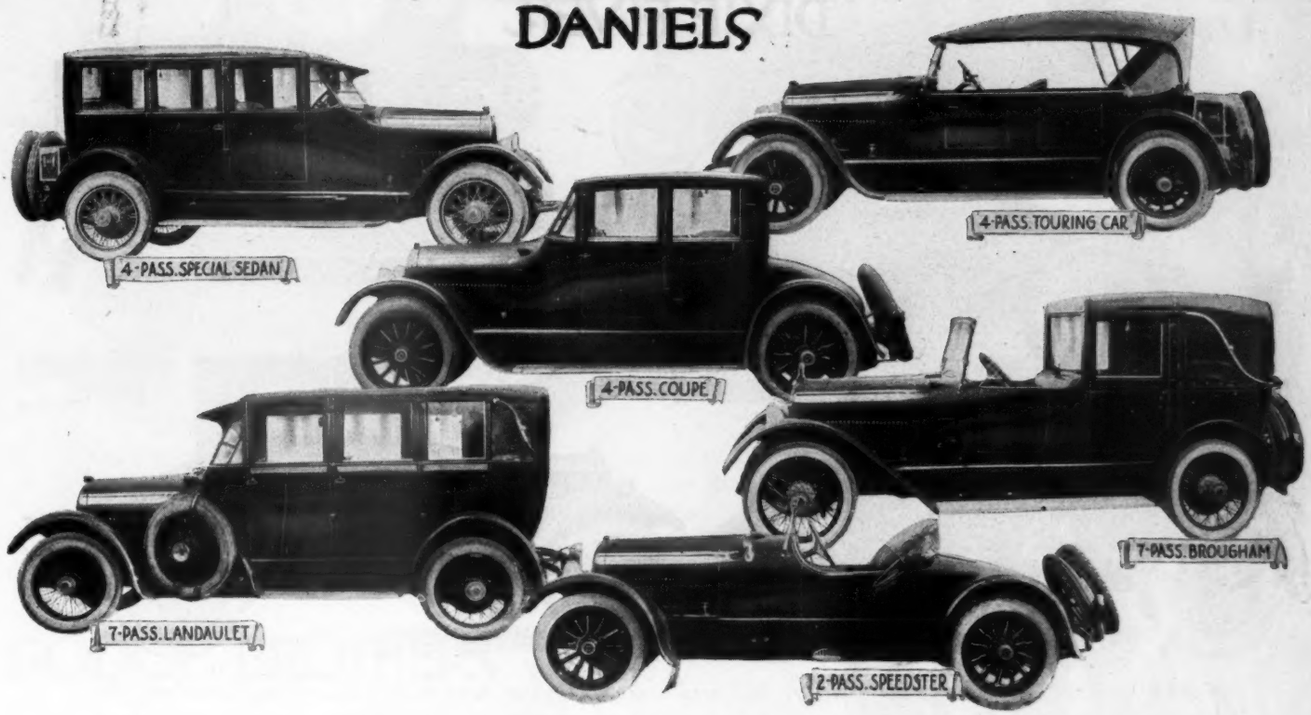
*CRAWFORD is producing three models for 1921, a two-passenger roadster, seven-passenger touring, and seven-passenger sedan all mounted on a 122 in. wheelbase. The car uses a Continental engine 9 N, Brown-Lipe clutch and transmission, Westinghouse starting and lighting system, Bosch magneto, Atwater Kent ignition, Timken axle, and Levin steering gear. The bodies on this car are custom built. The body is built with divided front seats and upholstery is in leather. The finish is black with natural color wheels. Tires are 32 by 4 in. Silverton cord.*

# DuPONT



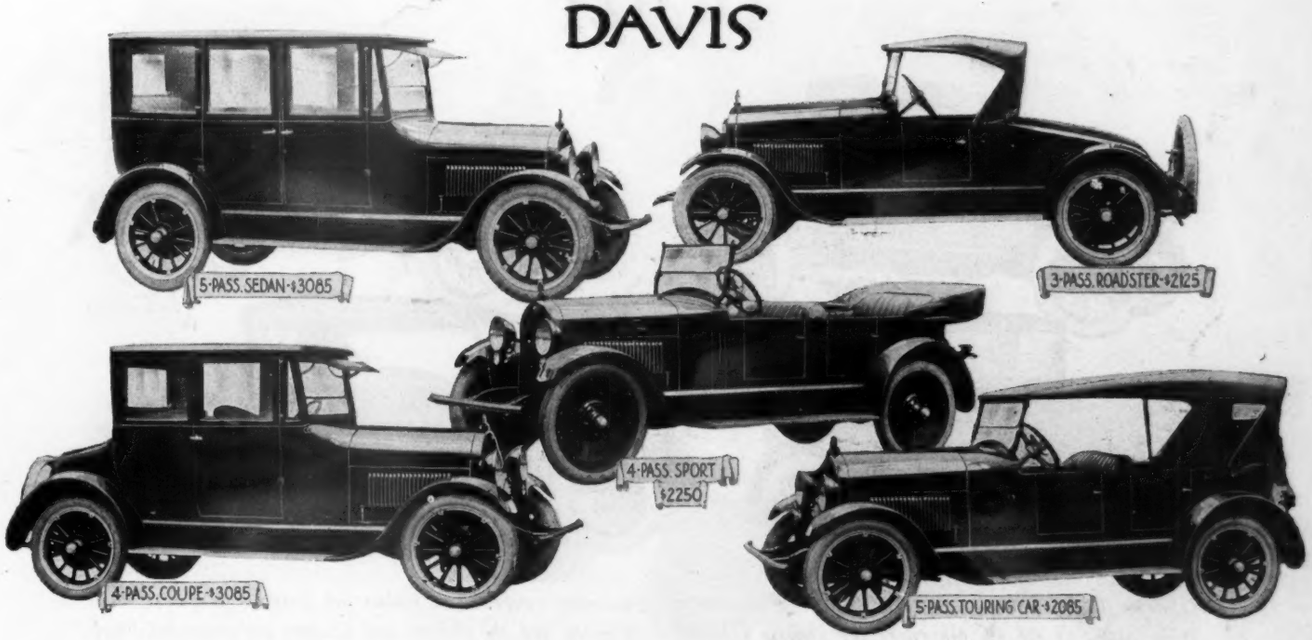

*DU PONT cars for 1921 are on the same chassis of 124 in. wheelbase which was first shown a year ago. Numerous minor changes and refinements have been added, however. The impression given by the chassis is that it is very simple but at the same time sturdy. The engine which is built by Du Pont in their own shops, is a four-cylinder L-head type 3-15/16 by 5⅛ in. Cooling is by centrifugal pump, and oiling system is full pressure to all bearings through drilled holes in the crankshaft. Unusually large braking surfaces and a four-speed transmission are features of the chassis. Four body styles are being offered, including a four-passenger touring, two-passenger roadster and two types of sedans. All of the bodies are distinctive in appearance in that the sides are concave instead of convex. A high radiator of unusual design is another Du Pont feature. Body workmanship throughout and details of appointment are of a high character.*

# DANIELS



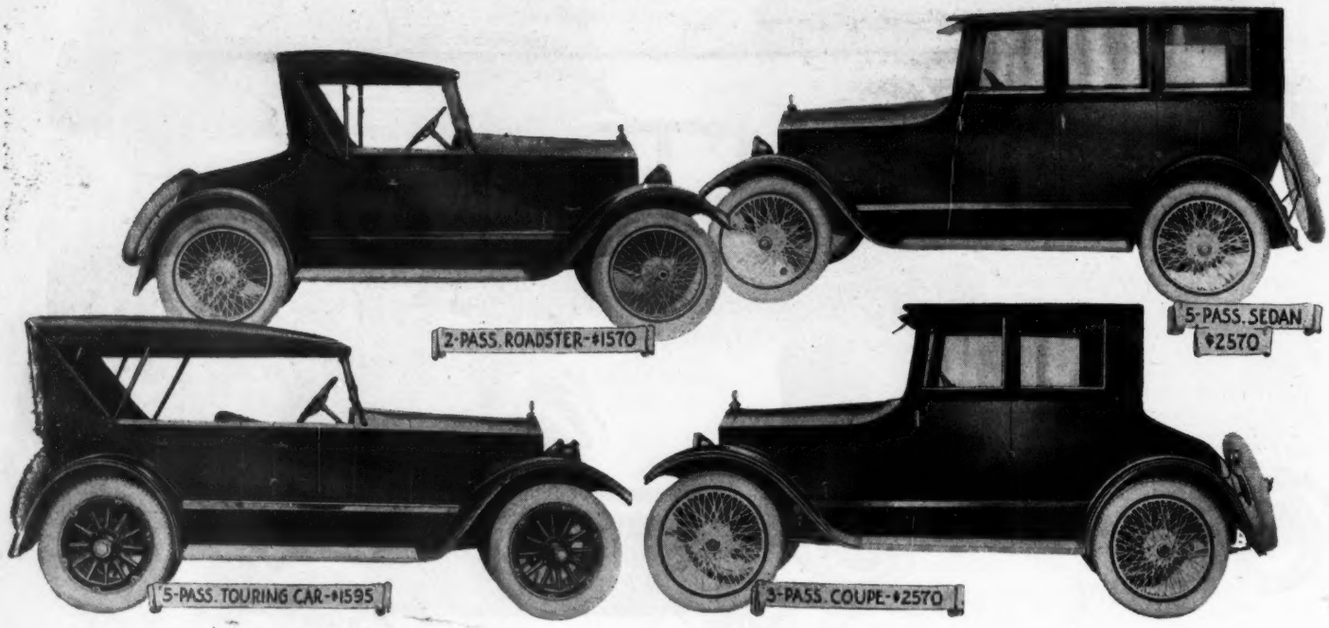

*NO important changes are noted in the construction of the 1921 Daniels chassis. The engine, which is of their own design and manufacture, is an eight-cylinder job 3½ by 5¼ in. A very complete line of bodies including twelve types is offered. This year's creations are the coupe and the submarine speedster. Special bodies will be built to meet the requirements of the owner. Equipment is most complete, including trunk rack.*

# DAVIS




*THE Davis chassis with the exception of a few refinements continues unchanged. The power plant is a Continental 7 R 3½ by 4½ in. six-cylinder engine. Seven body styles mounted on 120 in. chassis are offered. The line comprises a five-passenger touring, four-passenger sport, four-passenger special sport, which is this year's creation, five-passenger sedan, four-passenger coupe and the latest editions consisting of a three-passenger roadster and a three-passenger special roadster. Prices on all of the models have been reduced.*

# DIXIE FLYER

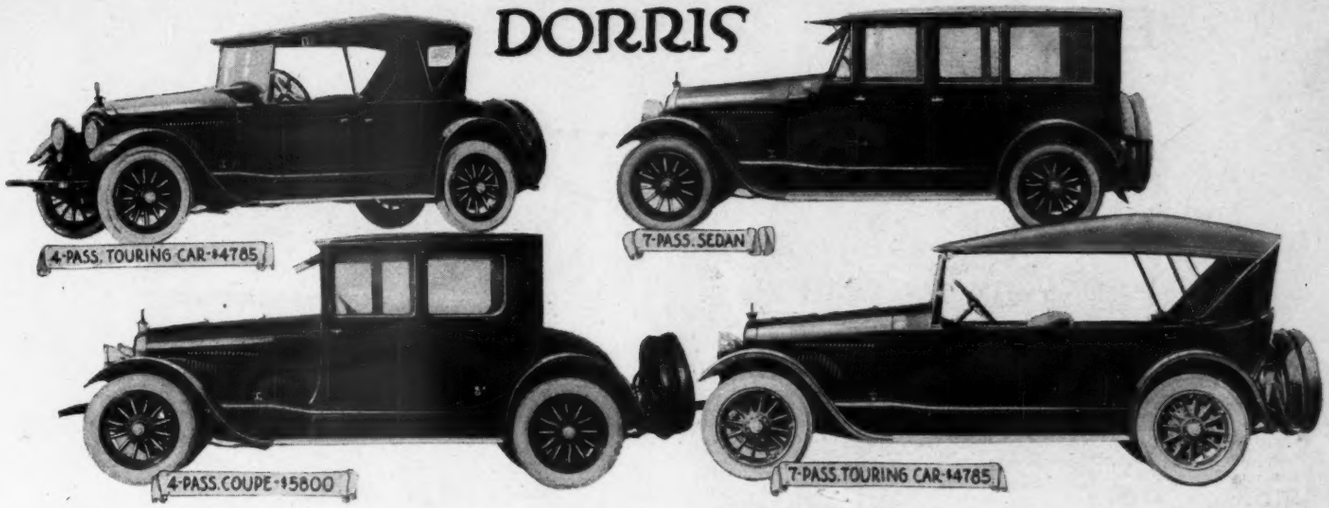



*A NEW roadster, designed as the speedster, has been added to the Dixie Flyer line for 1921. This is a two-seater which is given a racy appearance by lowering the seats and inclining the steering column at an acute angle. The price on this model is $1895 which includes spotlight, front bumper, wire wheels and cord tires. No changes have been made in previous models except some refinements in appearance. Nickeled radiator shells and windshield frames, bullet sidelights, Macbeth lenses, genuine leather upholstery and Gabriel snubbers are used.*

# DORT

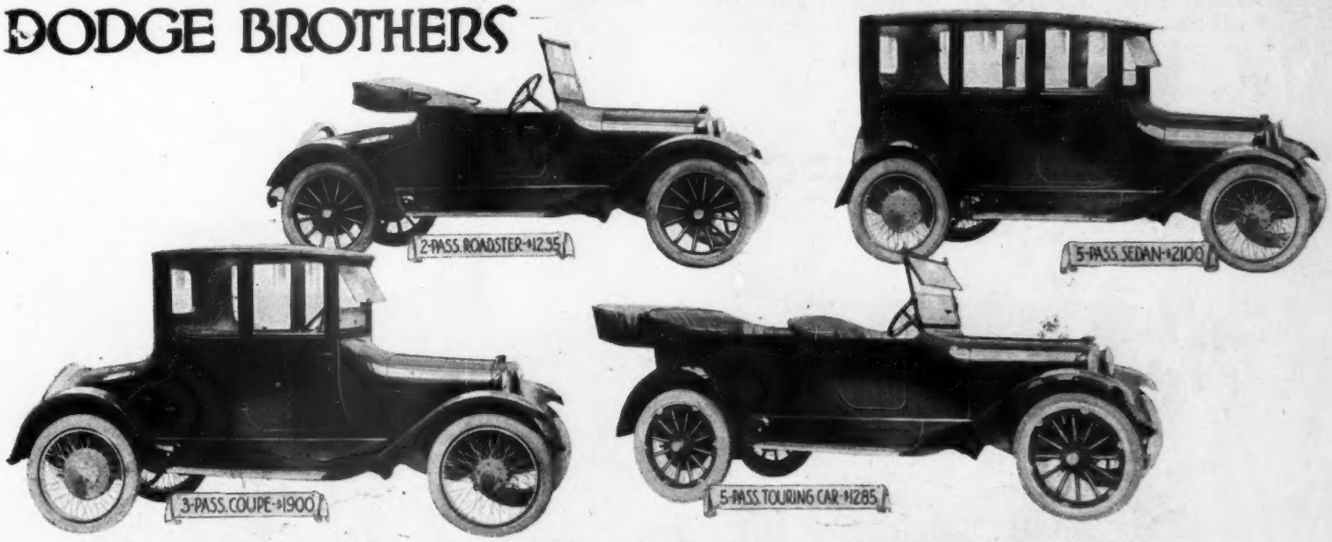
*THE wheelbase of the 1921 Dort has been increased from 105½ to 108 in. otherwise the chassis remains the same. An entirely new line of bodies has been introduced. All body types have been redesigned but the most striking change is in the shape of the radiator. The complete line includes a five-passenger touring, three-passenger roadster, five-passenger sedan and a three-passenger coupe. The bodies are finished in a soft shade of green and the chassis and fenders are enameled black. The interiors of the bodies are roomy but storage space has not been sacrificed. The floors of the closed cars are carpeted to match the upholstery and silk curtains of the same color cover the windows. The windshield is built in with rainshield and is adjustable for ventilation.*

# DORRIS



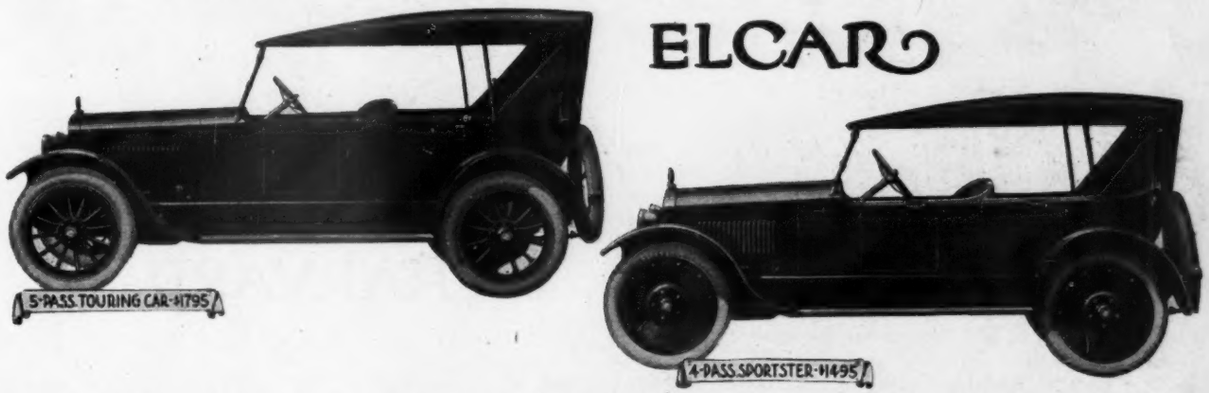

*THE 1921 Dorris displays only minor mechanical changes that are more in the nature of refinements. Positive lubrication of the rocker arms is now provided. The rockershaft is hollow and the oil is conducted through it to the rocker arm bearings. The arms themselves are drilled and copper tubes are inserted in the holes which carry the oil out to the tappets. The push rods are enclosed in brass tubes, the lower ends being lubricated by oil trickling down from the top. A Timken fixed hub type of rear axle and Thermoid universals are used. Other changes are the improved tire carrier which carries the tire from the inside of the rim instead of the tire resting in the bracket as in the old style, and an improvement in carrying the battery in the side splasher.*

# DODGE BROTHERS



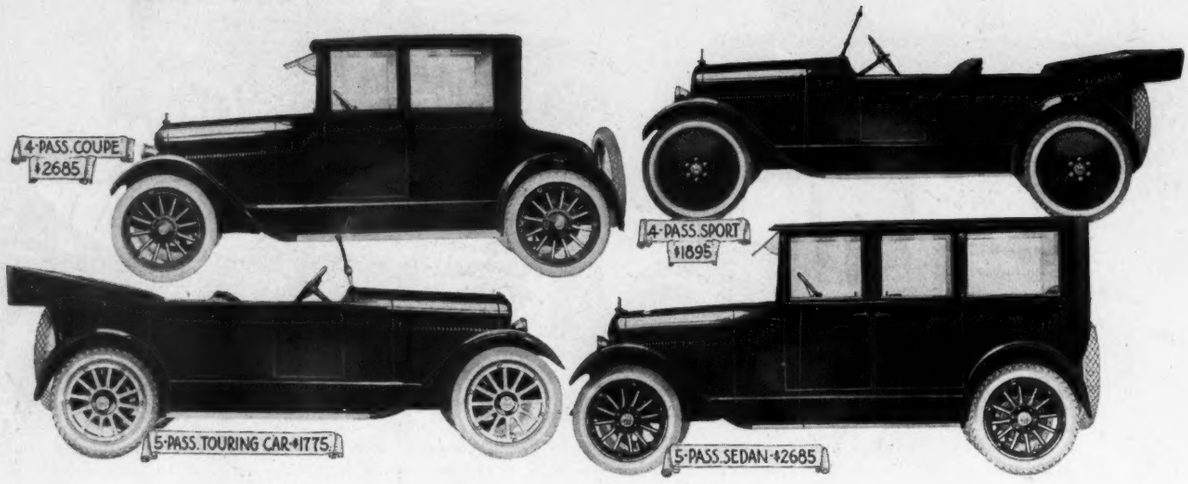

*DODGE for 1921 is virtually the same as the 1920 model. The standard chassis of 114 in. powered with a four-cylinder 3⅞ by 4½ in. engine of their own make is retained. The four body types offered are a five-passenger touring, two-passenger roadster, five-passenger sedan and a three-passenger coupe.*

# ELCAR



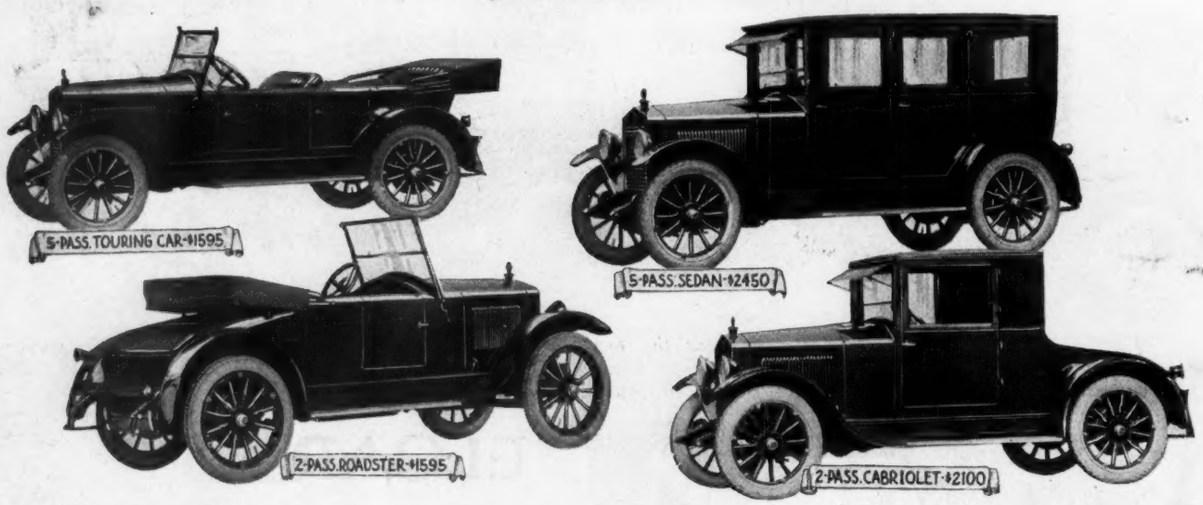

*THE wheelbase of the 1921 Elcar has been increased to 117 in. but other features of construction remain the same. Two sizes of engines are employed a 3¼ by 4½ in six cylinder Continental and a four cylinder 3½ by 5 in Lycoming. Standard units such as Stromberg carbureter, Borg & Beck clutch, Muncie gearset and Delco starting, lighting and ignition are used. Five body styles are offered that can be applied to either models.*

# ELGIN




*THE 1921 Elgin displays some minor refinements in chassis construction and has added one new model. The engine has been enclosed with an aluminum cover which is easily removed and the parts are accessible for adjustment. New camshaft and valve lifters have been adopted to quiet the operation of the engine. An adjustable aluminum steering column support makes it possible for the driver to adjust the height of the column to his convenience. Westinghouse starting motor and generator are used in place of the Wagner system formerly used. The exterior change is the option of body colors. A coupe which is a smaller edition of the sedan is offered at $2685.*

# ESSEX




*ESSEX continues its 1921 models without any changes. The engine is four-cylinder with 3⅜ by 5-in. bore and stroke, with the intake valves in the head and exhaust valves in the side. The total engine length overall is about 29 in. and the N. A. C. C. rating is 18.2 while the actual horsepower developed is more than 50. The crankshaft is of special design, scientifically counter-balanced, giving static and running balance at all speeds. It has three heavy bearings. The carbureter is of patented design, automatically controlled by the engine. The clutch is of the multiple disk type with cork inserts and runs in oil. Special attention has been paid to the spring suspension. All springs are of the semi-elliptic type; the front being 36 in. and the rear 54 in. long. The radiator shutter insures control of engine temperature and is operated manually from the dash. The phaeton body is roomy with ample leg room and has wide doors and seats. Other body styles include the two-passenger roadster, the two-passenger cabriolet and the five-passenger sedan.*

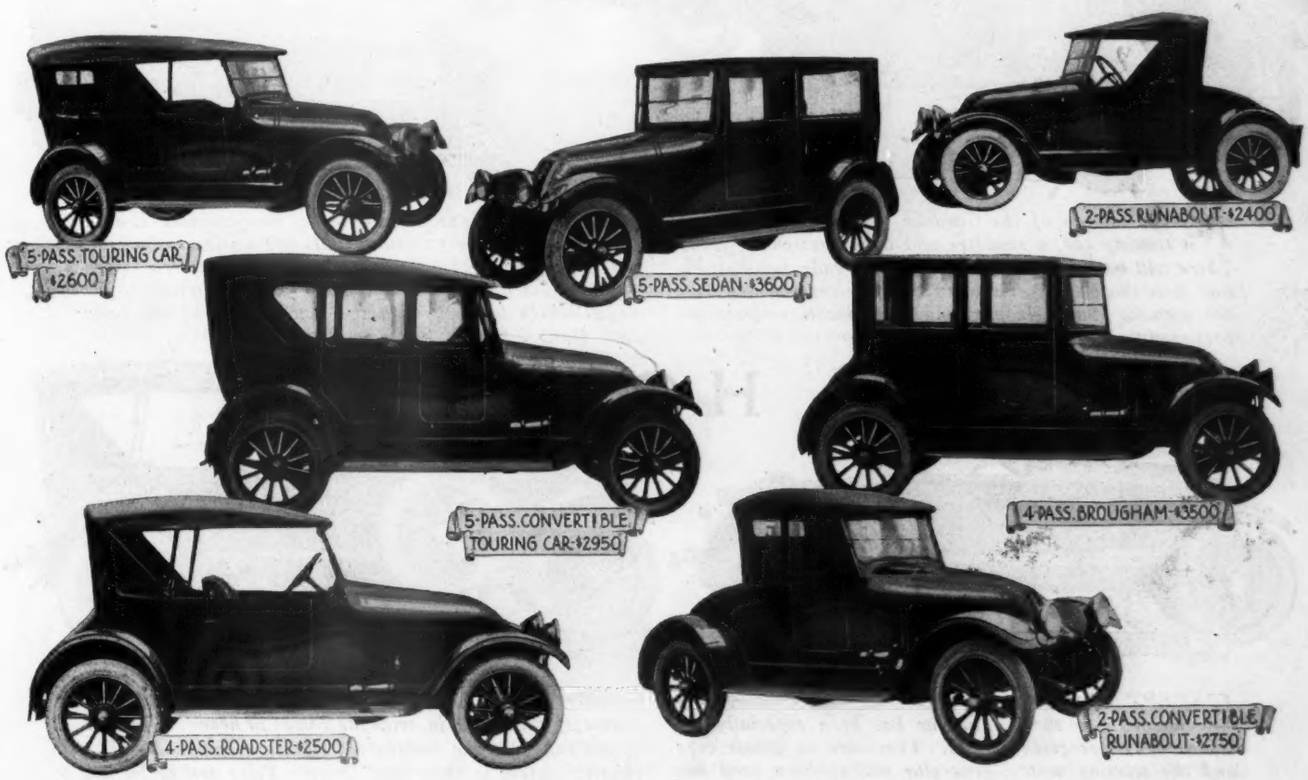
# HARVARD

*THE Harvard is built primarily for foreign trade. The engine is a Herschell Spillman and other units include the Borg & Beck clutch, Grant-Less transmission, Spicer universal joints, and Timken bearings in the axles. The Dyneto starting and lighting system is used and ignition is furnished by a Bosch magneto. The carbureter is a Zenith.*

# FORD

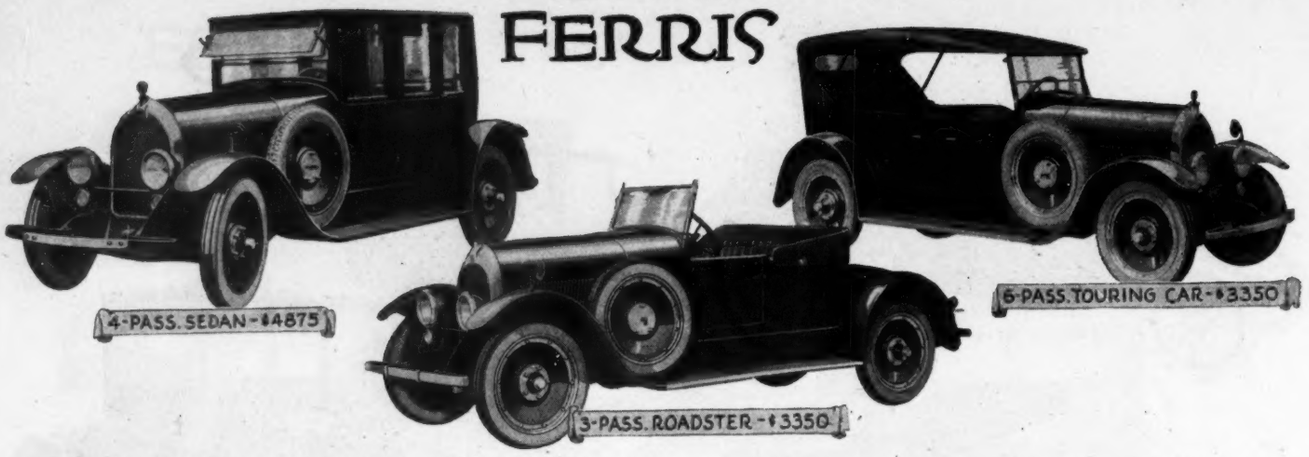
*ASIDE from the price change made some time ago there are no changes in the Ford line for 1921, which as, heretofore, includes the touring car, roadster, sedan and coupe. The model T chassis is retained. One thing which has featured the car for many years is the planetary transmission, a construction found in no other American car. The four-cylinder engine has never been materially changed since its inception in 1909.*

# FRANKLIN




*FOR 1921 Franklin resembles more nearly the conventional design of cars, so far as the hood is concerned than ever before. A dummy radiator in appearance somewhat like the Italian Fiat has been fitted, which brings the hood up in front to such a height that the top line of the hood is nearly horizontal. There still is a slight inclination of the dummy radiator. One of the appealing features of the new hood is the fact that it is interchangeable with the old style hood, so that any Franklin owner desiring to do so can virtually make his old car appear like the new models without altering any of the units at the front of the car.*

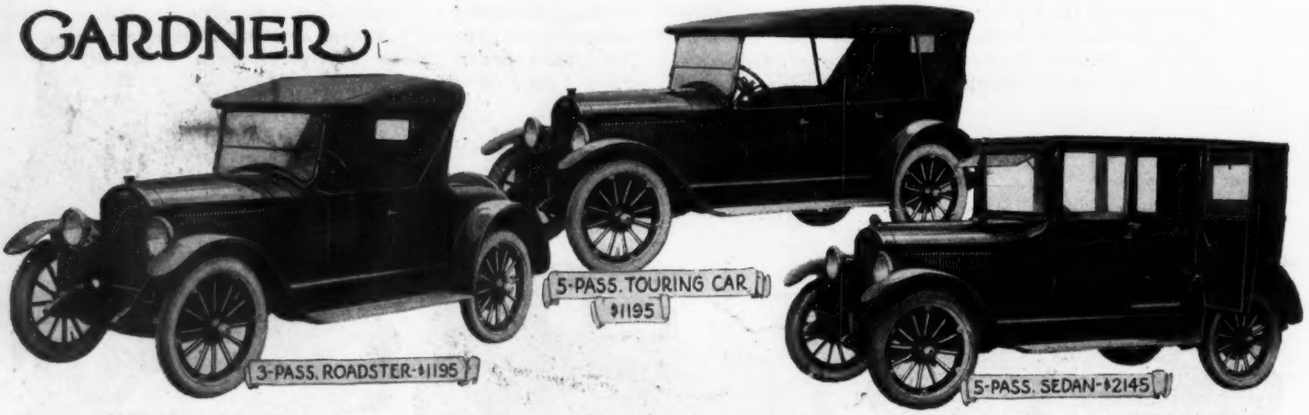
# FERRIS




*THE six-passenger Ferris is a 130-in. wheelbase car with an aluminum custom built body. Five Distell wheels are included in the equipment with a spare carried on the left side. The engine is a Continental 3½ by 5¼ in. with Splitdorf magneto and Zenith carburetor. The rear axle is a floating type and the clutch Berg & Beck. A two-unit Leece--Neville starting and lighting system is used. A volt and ammeter is placed on the instrument board, and the system can be checked by merely pressing a button. Burnt out fuses are said to be impossible because of a special type of circuit breaker.*

*Springs are semi-elliptic with oilless bushings. Tires are 23 by 4½ in. cords. The six-passenger car utilizes two auxiliary seats in the tonneau and the top is lined throughout with beveled plate glass windows in the rear. It is very complete including such features as a windshield cleaner, integral bumpers with frame, trunk rack, etc.*

# GARDNER




*THREE models of the Gardner will be built for 1921, a touring car, a roadster and a five-passenger sedan. There will be a fourth model, a coupe, ready for distribution in a short time. Except for a few refinements there has been no change in mechanical specifications from the first model.*

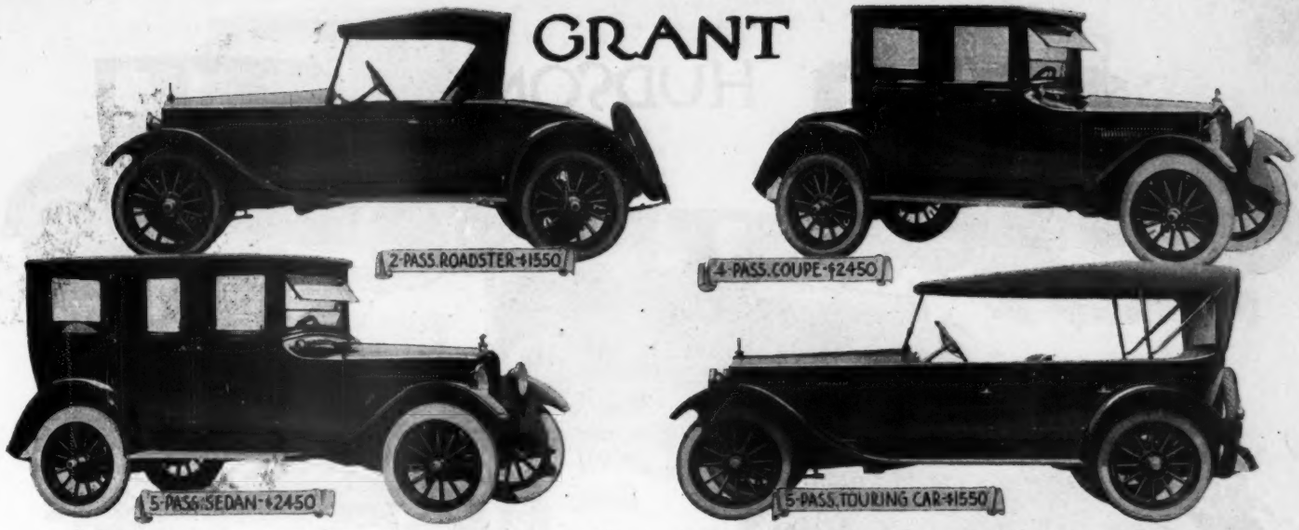
*The car has a 112 in. wheelbase, four-cylinder L-head type engine, 3½ by 5. Other units are Carter carburetor, Westinghouse ignition, starting and lighting system, Borg & Beck clutch. The finish is black with exception of the Sedan which is black with the bottom half of the body dark blue.*

# H.C.S.

*EXCEPT for a price change the H. C. S. remains unchanged for 1921. The car has been especially designed to render quick service. There are no grease cups and the starting motor, generator and ignition head has been placed on the right side of the engine in the most accessible position.*

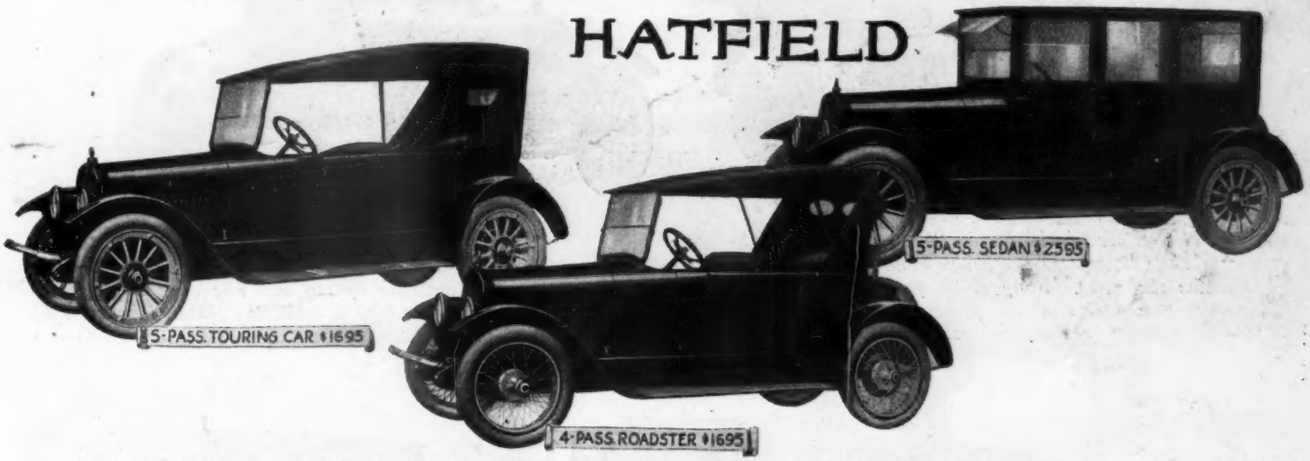
*It is possible to dismantle any unit of the car, such as the rear axle, transmission, or remove the engine, steering gear, etc., without in any way disturbing the neighboring units. The car has a 120 in. wheelbase and is priced at $2975 for four-passenger touring and $2925 for the roadster. It is powered with a Weidely four-cylinder engine of 3⅝ by 5½ in. with the valves in head. A feature of the engine is the Lanchester vibration dampener. The electric system is three-unit Delco. Tires are 32 by 4½ in. and the car has two extra wheels and tires, one on each side. No running boards are used, two aluminum steps taking their place. The radiator is cellular with solid German silver shell and a short brace is placed back of it attached to the engine, instead of the usual long brace running from radiator to dash.*

# GRANT



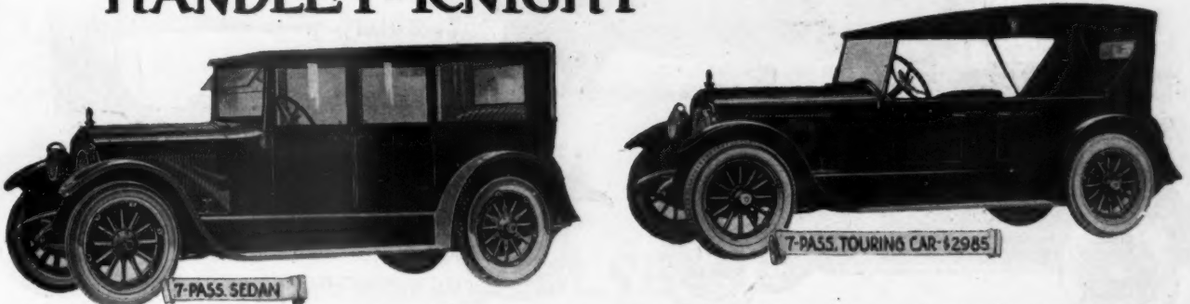

*THE Grant Six as it will be shown at the 1921 shows is with respect to the chassis substantially the same as last year's model. A number of minor improvements including a cover over the valves have been made in the engine which is now strictly a Grant product. To the car as a whole the following improvements have been added as standard equipment: cord tires; Gabriel snubbers on both front and rear springs; machine-buffed leather; a better grade of body hardware; floor carpet in front compartment; and in addition, on the enclosed cars, a Neville sliding steering wheel and glass combination rain and sun visor.*

# HATFIELD



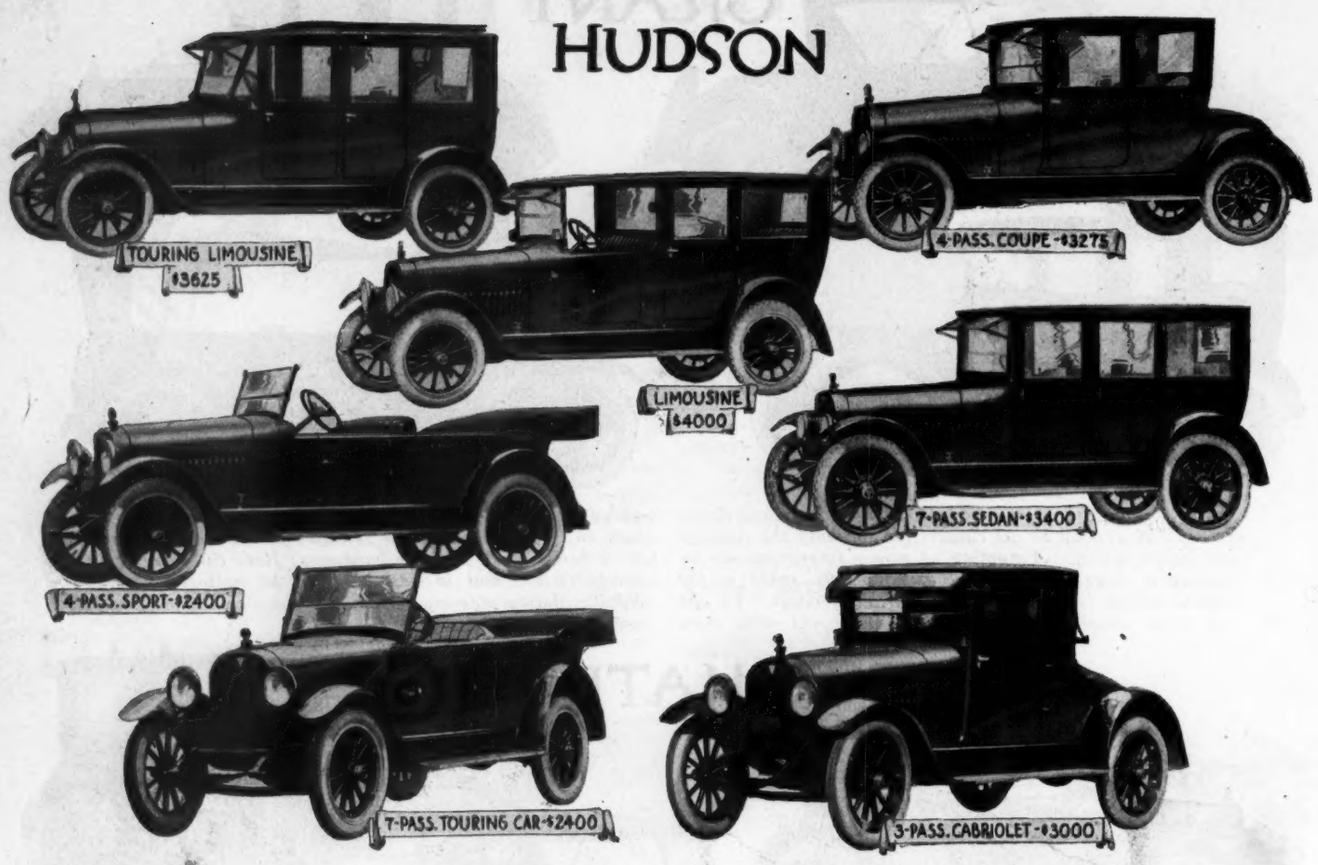

*THE Hatfield custom built line continues practically unchanged. The 115 in. chassis is powered with a four-cylinder Herschell Spillman engine of 3½ in. bore and 5 in. stroke. Cooling is effected by the thermo-syphon system and force feed lubrication for the main bearings with splash to upper and lower rod bearings and cylinders. The bodies are custom built and are furnished in green, maroon or blue.*

# HANDLEY-KNIGHT



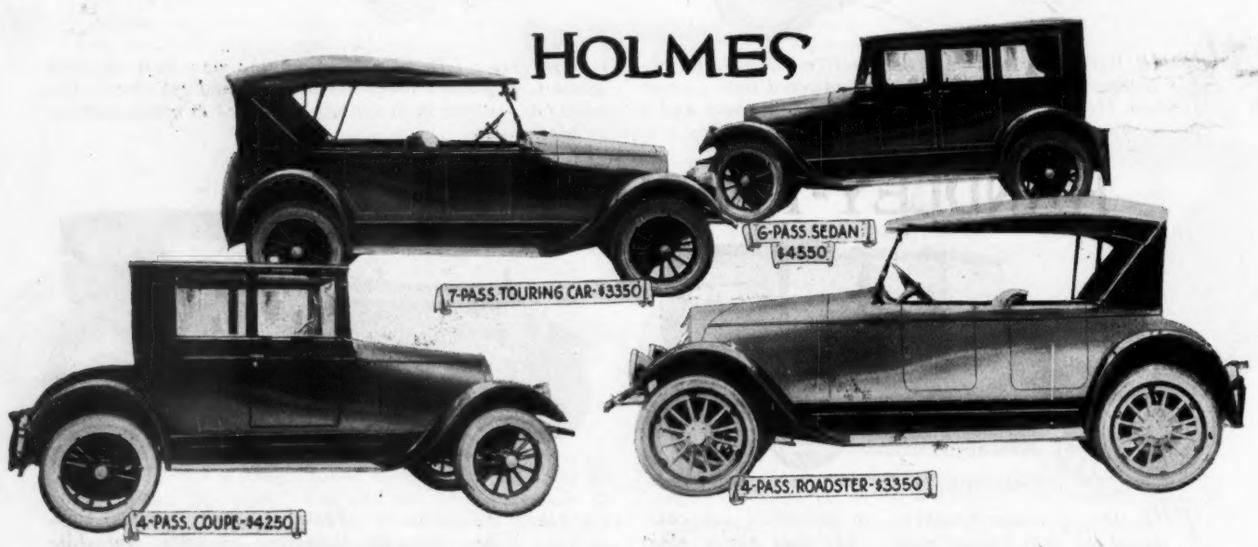

*THE new Handley Knight is an assembled job composed of well known units. The unit power plant comprises a 4¼ by 4½ in. four-cylinder Knight engine, a Borg & Beck clutch and a Grant-Lees transmission. The engine is oiled by a positive pressure feed to all bearings. The pistons sleeves and cylinder walls are taken care of by centrifugal throw and the connecting rod bearings are lubricated through oil leads drilled in the crankshaft. Cooling is effected by the thermo-syphon system. The electrical equipment includes Auto-Lite starting and lighting and Connecticut ignition. Two body types are available, a seven-passenger touring and a seven-passenger sedan mounted on a 125 in. chassis. An unusual finish of the body is a solid aluminum molding placed around the entire top of the body to give a smooth finish over the door edges.*

# HUDSON




*THERE are no changes in the 1921 Hudson. The gear-shift lever now has a ball handle, and the H-gate remains the same. Body styles for this season include a seven-passenger and four-passenger open model, four-passenger coupe, seven-passenger sedan, seven-passengr limousine and a five-passenger touring-limousine. All Hudson cars have a wheelbase of 126 in. The open models and the sedan have steel bodies, while the closed jobs are made in aluminum.*

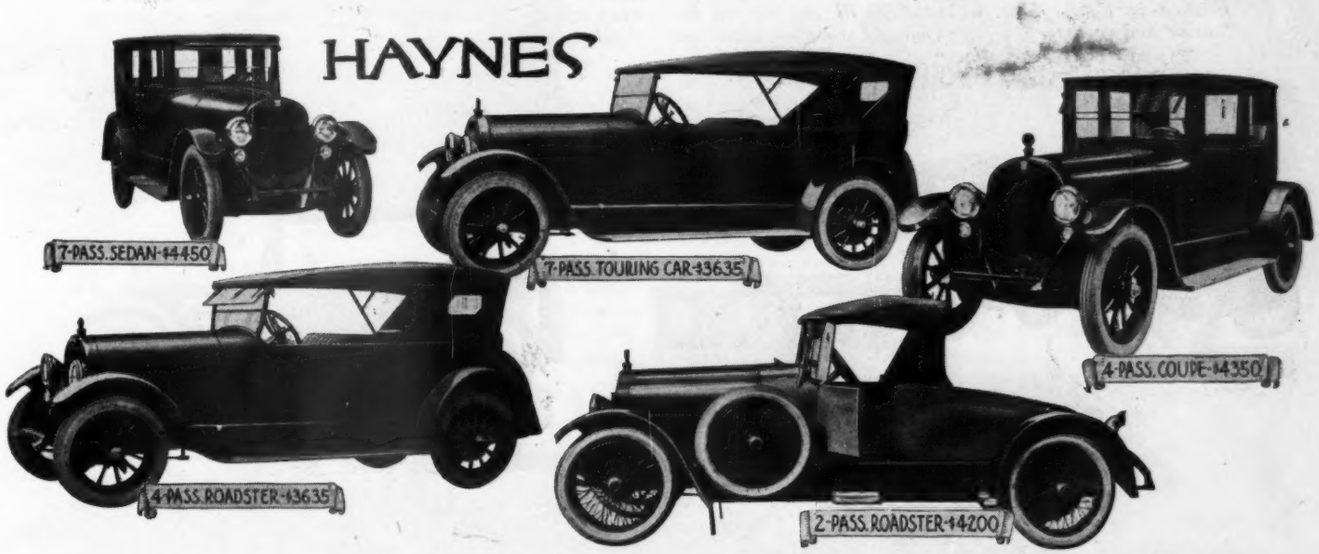
# HOLMES




*THE most important feature of the new Holmes is the Aeroduct cooling system which is claimed to more than double the cooling efficiency of the engine. The 3½ by 4¼ in. six cylinder engine has three valves placed in each removable cylinder head. The valve mechanism is enclosed with a cast aluminum cover easily removed with a thumb nut. Dyneto single unit electrical system with Eisemann magneto ignition is employed. Five body styles are offered, 7-passenger touring, 6-passenger sedan, 4-passenger roadster, 4-passenger coupe and 7-passenger touring equipped with an Artcraft all year top. A characteristic of this car is bevel body line.*

## HANSON

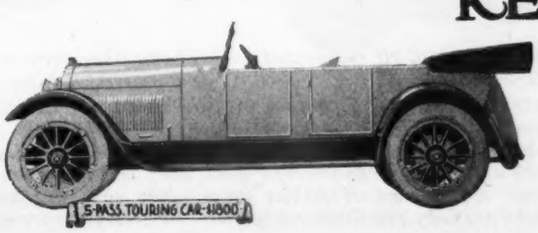
*THE Hanson Six is a 121 in. wheelbase car with a Continental engine, Timken axles and bearings, Delco starting and lighting. Body, hood and fenders and all sheet metal parts of all models are constructed in the Hanson factory of heavy aluminum. Upholstery is in leather. The line consists of a two-passenger roadster, five-passenger sedan, five-passenger touring, and a five-passenger sport. All models are equipped with duplex headlights, 32 by 4 cord tires, and cowl light, tonneau light, speedometer, motometer, etc.*




## HAYNES

*HAYNES has a new model for 1921, this being the model 50. The most radical difference between this new six and the model 47 is the difference in price the new model being $1,985, while the model 47 4-passenger is $2,685. Wheelbase is reduced from 132 to 121 in. and tire size to 33 by 4 instead of 34 by 4½.*

*For the present there will be but one body model fitted to this chassis this being a touring car to seat five people. The hood is very broad and the cowl continues straight backward giving the car a high appearance in the front, somewhat on European lines. The power plant is identical with the power plant used on the model 47, having six cylinders 3½ by 5. The clutch and gearset are in unit with the engine and the whole is three-point suspended.*



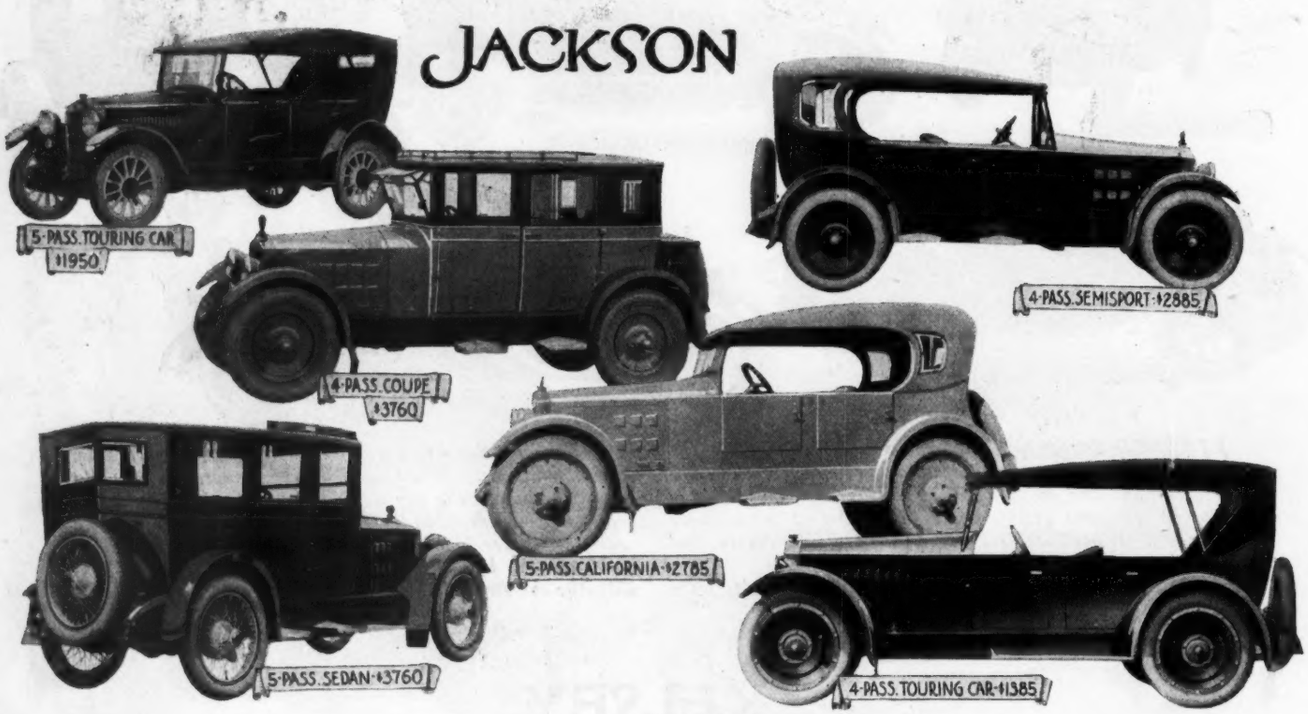

## KELSEY

*THE Kelsey is the only friction-driven car made in this country. The transmission is located on the rear axle and replaces the conventional bevel-gear drive. Another departure from standard practice is the internal-gear drive on each rear wheel. The car has a Falls six-cylinder engine, is built with a 116-in. wheelbase and has 32 by 4 in. tires.*

# HUPMOBILE

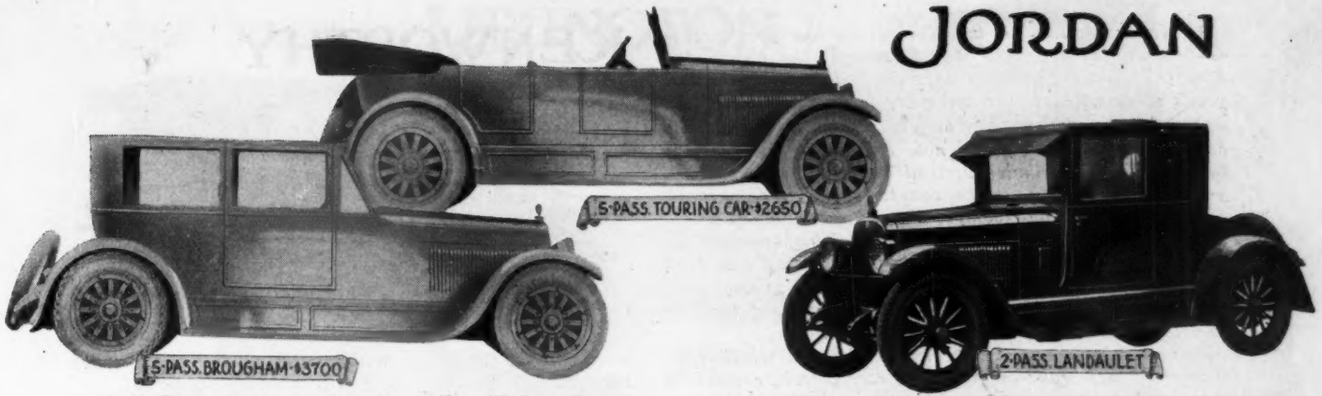
*THE 1921 four-cylinder Hupmobile chassis embodies numerous minor improvements in design. Four open and closed models are presented in new body designs the most prominent being the four door sedan. Bodies are finished in lighter blue. The shape of the top on the touring and roadster has been changed and plate glass rear window is used. Both inside and outside door handles are employed on the new bodies. A rear lamp that provides illumination for a distance of 75 ft. when backing is included as standard equipment. The closed bodies are very roomy and display many refinements of interior finish.*

# JACKSON



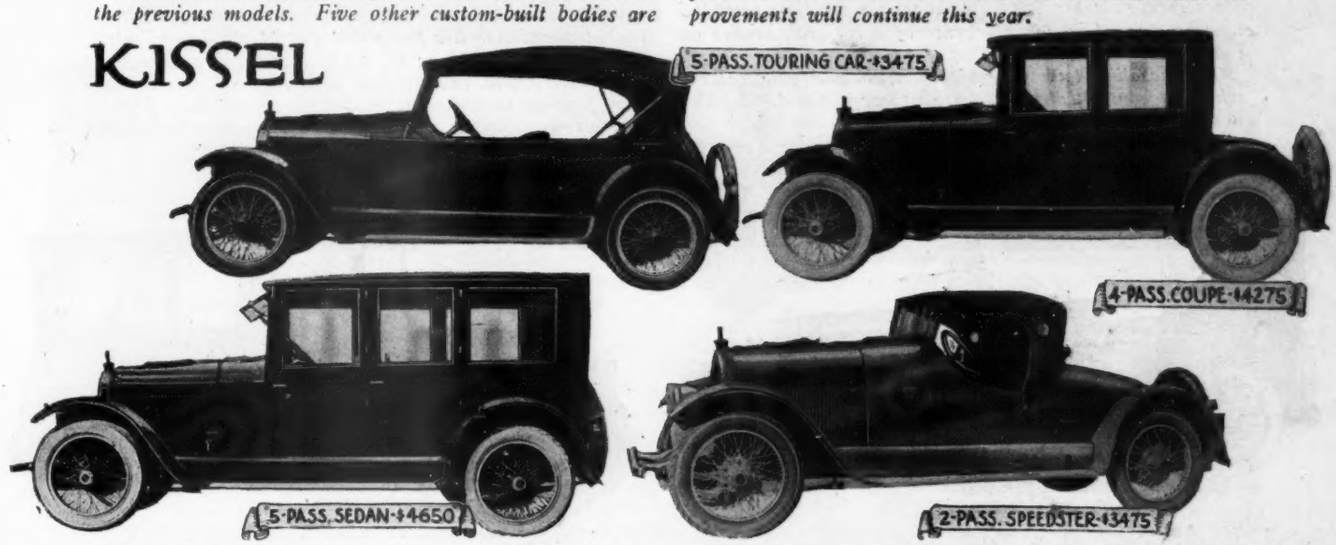

*SIX types of cars will be built by Jackson for 1921, five being on the same chassis known as model 628. These are a sport car, called the Broadway special, a semi sport, a California special, a Princess coupe, and a Hollywood sedan. There is also a new model known as the Jackson light four which comes in the five-passenger touring type. All models are fitted with steel disk wheels, and with the characteristic Keystone radiator. The sixes are fitted with the Continental 7R engine and some of the other units include a Borg and Beck clutch, Covert gearset, Salisbury axle and Goodyear 32 by 4½ in. cord tires. All springs are semi-elliptic with Hotchkiss drive. The six has a wheelbase of 121 in. The four-cylinder car is equipped with a 3½ by 5 in. Lycoming engine, Borg & Beck clutch, wood wheels, and Hotchkiss drive. The tires on this model are 32 by 4 in. Goodyear fabrics. Wheelbase is 113 in.*

# JORDAN




*A NEW landaulet roadster has been added to the 1921 Jordan line which displays the same characteristics as the previous models. Five other custom-built bodies are provided for the standard chassis which with minor improvements will continue this year.*

# KISSEL




*KISSEL has added a new six-passenger close coupled sedan to its line for 1921 which includes also, a four-passenger tourister, two-passenger speedster, seven-passenger touring, four-passenger coupe, six-passenger sedan and a four-passenger sedan. They are mounted on one chassis which is powered with an engine of six cylinders 5 1/16 by 5½ in. All of the Kissel models are featured by bullet shape headlights, a special Kissel designed radiator, long and racy hood, distinctive rounded windshield, individual steps and bicycle type of fenders.*

# KLINEKAR

*THE Kline Kar for 1921 remains substantially the same as last year's car, with the exception of a few refinements. The braking system has been improved by hanging the levers underneath and the brake drums made larger, thereby giving more surface on which the brakes can operate. The axles also have been changed, the front one now having ball-bearing steering knuckles. It is of the ideal type. The rear axle is of the three-quarter floating type with a bearing behind the pinion shaft to eliminate side thrust and give additional strength. The fenders have been shortened 10 in. at the running boards and the running boards increased correspondingly.*

# KENWORTHY

*A NEW addition to the Kenworthy line for 1921 is shown for the first time, known as the Kenworthy Line O' Eight. The body lines are the same as the last year's models. However there are many refinements and improvements mechanically and in nicety of finish. The outstanding features of the new Kenworthy are briefly: their own eight cylinder vertical engine of 90 h.p., with 3-in. bore by 5¼-in. stroke counter-balanced crankshaft, exhaust valves below compression chamber at an angle of 5 degree, intake valves over head. This arrangement makes possible the use of extra large valves. Force feed and gravity lubricating system is used. Philbrin dual ignition system and Bijur double unit starting and lighting completes the power plant.*

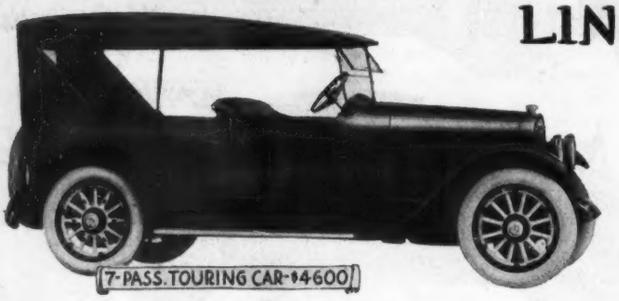
*The most up-to-date brake system is used which consists of service brake on front and rear wheels, expanding type, and emergency brake on rear wheels only, contracting, both mechanically operated. This arrangement gives maximum braking efficiency, as a car thus equipped may be stopped in half the space of a car with brakes on rear wheels only.*

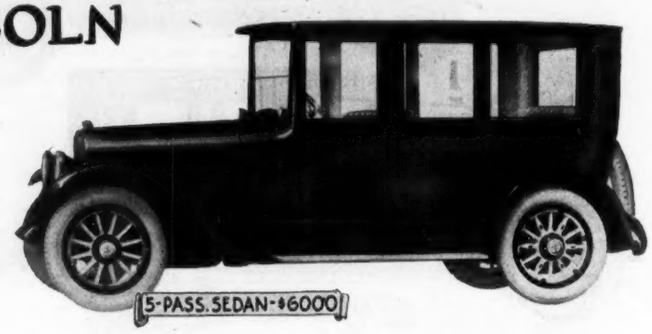
*The gasoline tank is equipped with a double reserve which is controlled from the instrument board. Besides a speedometer, a tachometer has been applied which will show the revolutions per minute of the engine. The radiator will be equipped with thermostatically controlled shutters.*

*The general equipment will be complete in every detail, including spare wheel, spare tire and tire cover, Gabriel snubbers, two spot lights, front and rear bumpers, trunk rack, transmission tire pump and a complete set of tools.*

*The Kenworthy Line O' Eight is offered in five body styles on a 130-in. chassis, four-passenger convertible roadster, four-passenger sport model, seven-passenger touring car, seven-passenger sedan and four-passenger brougham coupe.*

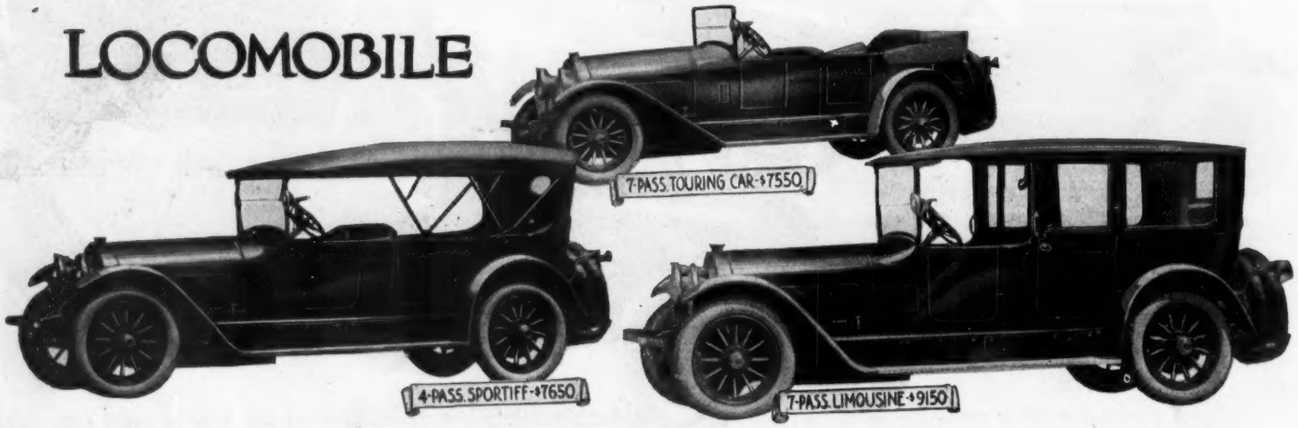
# LINCOLN



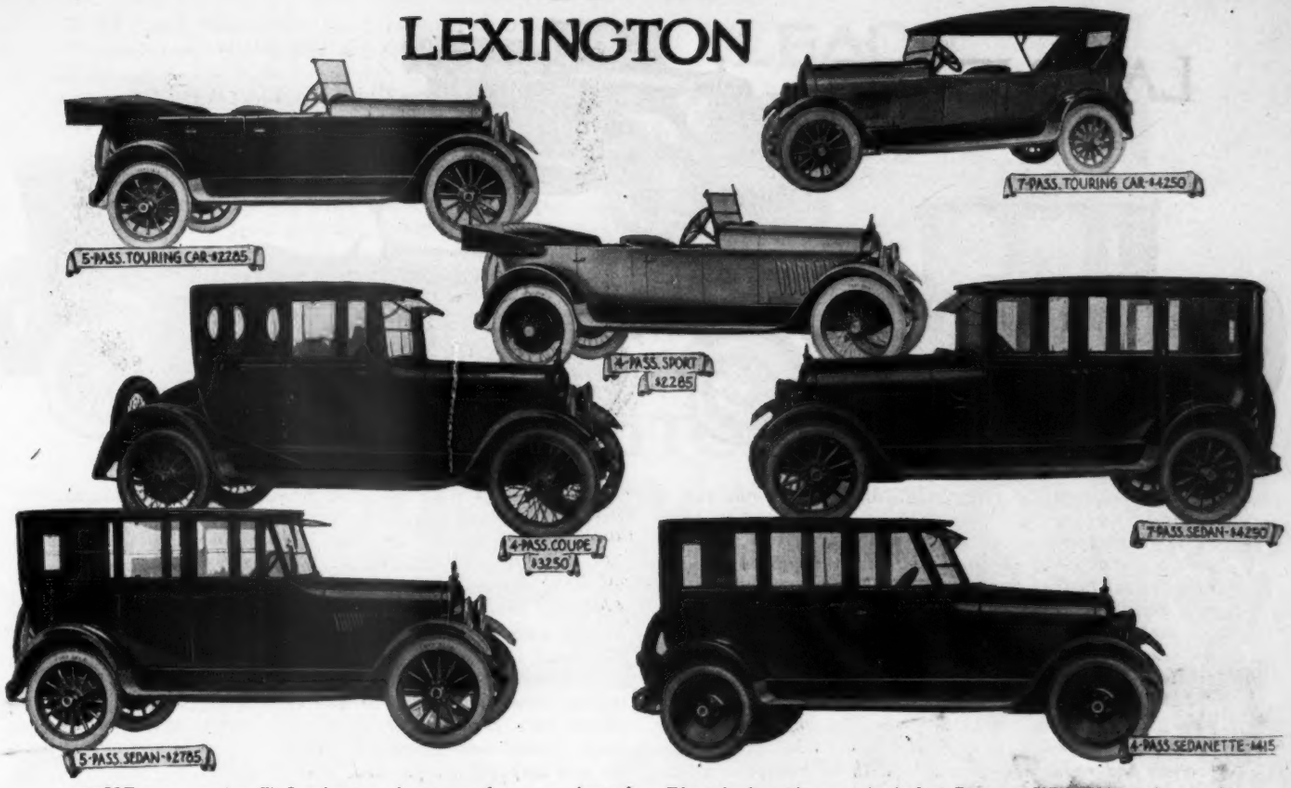

*THE 1921 Lincoln is an eight-cylinder product having a wheelbase of 130 in. The 3⅜ by 5 in. engine is of the familiar V type construction. Lubrication is positive pressure feed. Force cooling is employed and the radiator shutter is controlled with a thermostat of the syphon type. The clutch is a dry plate type with fifteen disks. The Alemite system of chassis lubrication has been adopted and the entire chassis presents an accessible layout. Seven styles of bodies are supplied on one chassis and the eight a Suburban limousine is mounted on a slightly longer wheelbase. The body styles are conservative without any radical innovations, having a characteristic straightline appearance. The interior work is carried out in very tasteful detail.*

# LOCOMOBILE




*THE Locomobile 43 is continued for 1921 with four standard bodies and a wide variety of special body types. The wheelbase is 142 in. and the car is powered with a six-cylinder engine 4½ by 5½ in. The bodies and the chassis as a whole are a continuation of the Locomobile for the last few years. There are numerous refinements among which may be mentioned a larger crankshaft, a system of pressure oiling lubrication of chassis, and additional oil sump in the front of the crankcase connected to a two stage oil pump which prevents excessive oiling of the front cylinders when the car is descending a hill.*

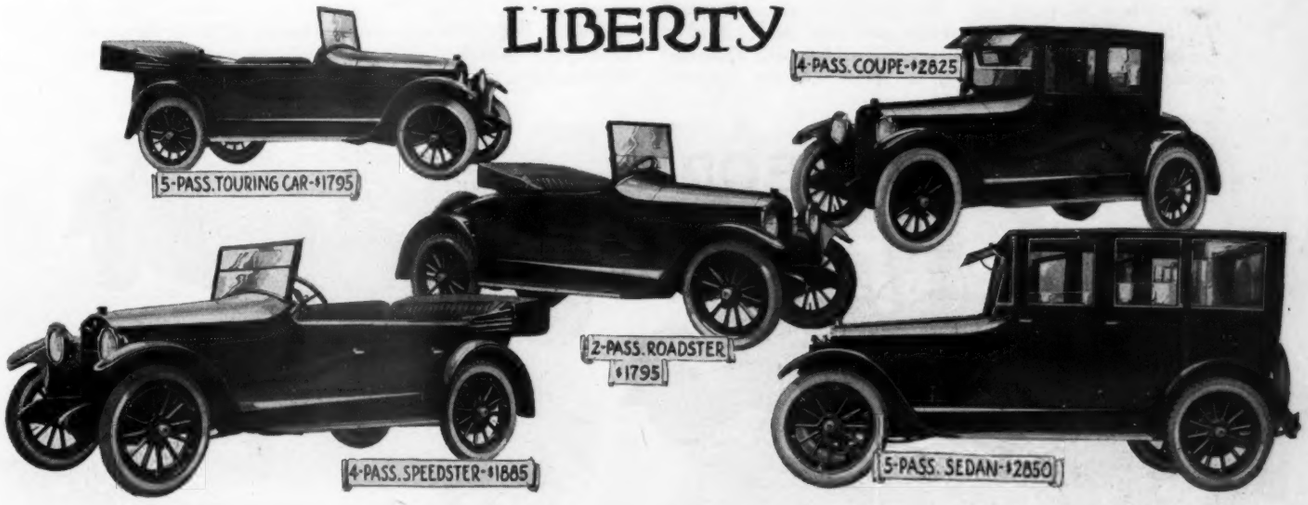
# LEXINGTON




*THE new series T Lexington features the new Ansted engine a product of the Lexington laboratories. This engine is a six cylinder overhead job 3¼ by 4½, developing 70 h.p. at 3000 r.p.m. The valves are of the tulip type having a very narrow seat surface and are fitted with double valve springs. The valve gear is of new design known as the rocking chair variable ratio rocker arm type and is easily adjustable while the engine is running.*

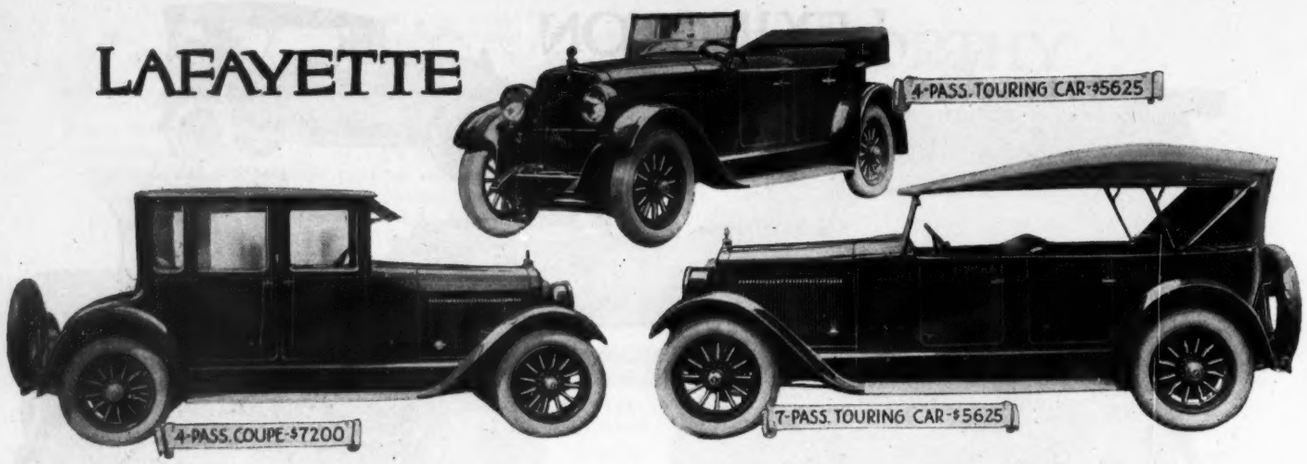
*The engine lubrication is vacuum controlled full pressure feed proportioned according to load. Forced cooling is employed with thermostatically controlled circulation. Electrical equipment includes Gray and Davis starting and lighting and Connecticut ignition. The entire chassis layout is very accessible. The three body styles mounted on the 128-in. chassis are, a seven-passenger touring car, four-passenger sedanette and a seven-passenger salon sedan. The sedanette embraces all of the features of the open car in the way of tilting headlight, reflectors, etc. One of the characteristics of the new body is the front door which has been constructed so that it forms part of the windshield structure. The series S Lexington will continue without any startling changes.*

# LIBERTY




*LIBERTY has added a new model coupe to its line for 1921. This model has almost straight top lines and permits of more harmonious side windows. The two doors are equipped with outside hinges arranged to throw the doors farther away from the body when people get in and out of the car. The deck at the rear has been raised and enlarged providing room for three or four suitcases. New type of fenders curve down over the rear wheels to a point on a line horizontal with the hub caps. A two-piece style of windshield replaces the three-piece and tips slightly thus avoiding any possibility of glaring. A visor covered with black leather is placed over the top part of the windshield for protecting the eyes of the driver from glare and rain. The color scheme is dark blue for the body and upholstering, with the driver's seat and wheels in black. There have been no changes made in the chassis.*

# LAFAYETTE



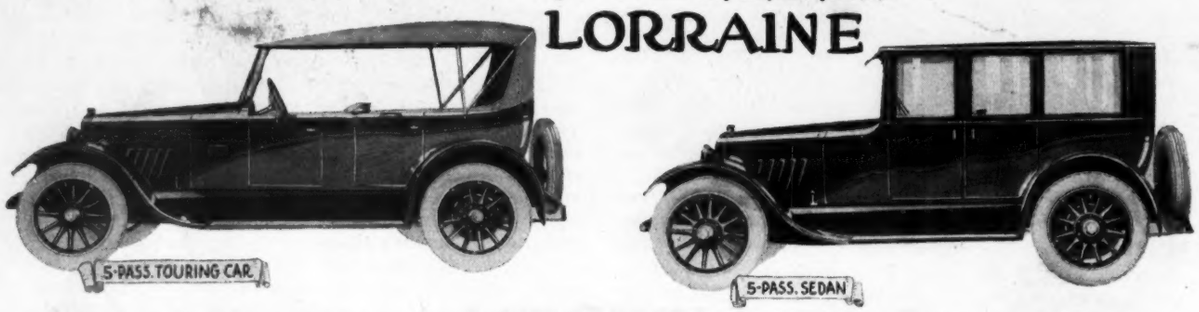

*BY redesigning the suspension, the height of the top of the frame on the Lafayette has been reduced to about 22 in. The minimum clearance is 9½ in. under the front axle. The angle of the steering knuckle has been changed in an effort to facilitate steering. The propeller shaft and axle driveshaft are tubular. Chromium has been added to the metal used in the cylinder block castings to increase its hardness. The chassis has been lightened wherever possible, the weight now being 2500 lbs.*

*The 90 h.p., eight-cylinder engine is not radical in design. The cylinder blocks are set at an angle of 90 deg.*

*Engineering skill is to be found in the wholesale simplification and reduction of weight without loss of strength or reliability. For example, the hollow crankshaft, weighs only 30½ lb., and is held in five main bearings instead of the orthodox three. The radiator is supported upon a stiffening base of aluminum and is fitted with vertical shutters, thermostatically controlled. Another exclusive Lafayette device is a brake equalizing differential mounted on the rear of the transmission case and automatically lubricated. This device eliminates side skidding.*

*The chassis is designed primarily for enclosed cars, giving the open models even greater briskness of action. Enclosed cars predominate in the line, with a four-door coupe, sedan and limousine. Two open cars, a touring car and torpedo, are finished.*

# LORRAINE

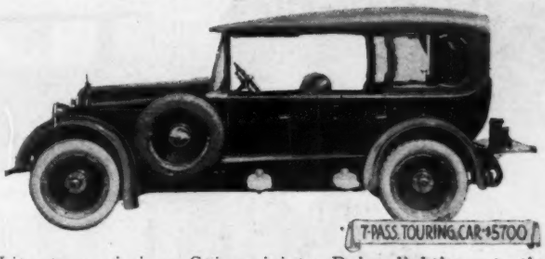



*THIS car is 114 in. wheelbase job with 32 by 4 tires and powered with a four-cylinder Herschell-Spillman engine of 3½ in. bore and 5 in. stroke. Other features include a Berg & Beck clutch, Munice gearset, Columbia (one piece housing) rear axle, Gemmer steering gear, Westinghouse electric system of U. S. L. battery.*

# METEOR

*THE Meteor for 1921 will be furnished in a standard two-passenger and four-passenger car. This car is noted for its racy lines and powerful engine which is the Rochester-Duesenberg four-cylinder developing 80 h.p. at 2600 r.p.m. Ignition is furnished by Simms magneto and the carburetor is a Zenith. The transmission has four speeds forward with direct drive on third and over-geared on the fourth. A feature of the car is the braking system in which two internal expanding brakes are mounted on each rear wheel and one brake on the propeller shaft. The rear wheel brakes are operated by two individual pedals which can be used together or single. Bodies are designed in the factory and executed and built by Fleetwood of aluminum with steel fenders and option is given on the colors and upholstering material. The equipment is very complete including Tuffault Hartford shock absorbers.*

## LEACH




*THE Leach Power Plus Six is featured by its complete equipment. All models are equipped with the Leach de luxe top, with sliding rear glass and sliding front curtains, giving the owner the advantages of the open car and the closed type.*

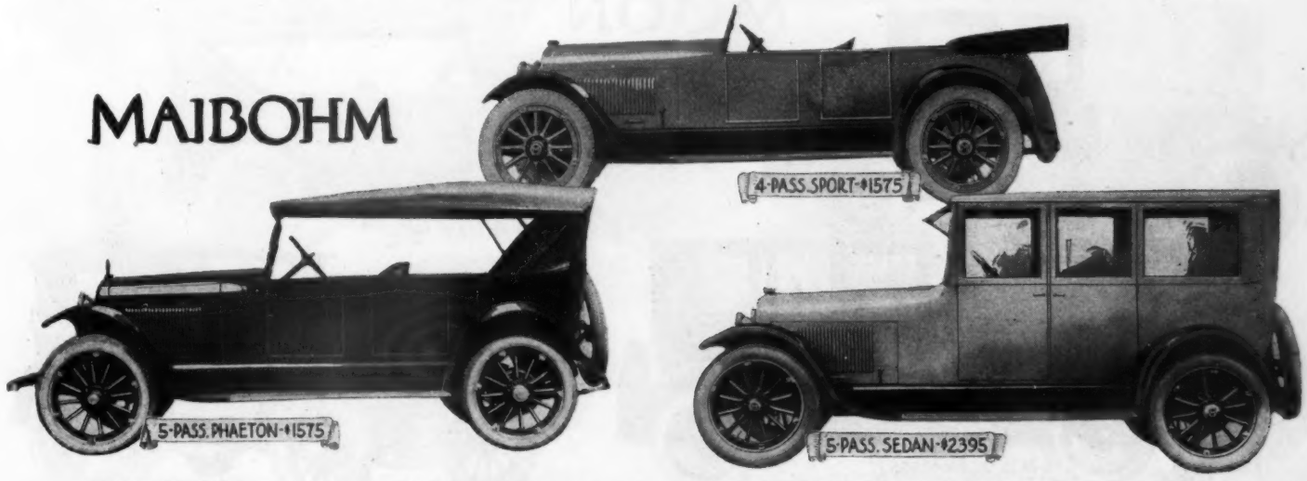
*The standard equipment includes bicycle fenders, individual steps with automatically controlled lights above each; combination trunk rack and bumper on the rear, also, bumper on front; electric semaphore signal; extension dash and trouble lamp; electric cigar lighter; a one-piece clear vision windshield with wind deflectors.*

*The company makes a three-passenger roadster, five-passenger touring car and seven-passenger touring car. The engine is a Continental; other units being a Brown-Lipe transmission; Spicer joints, Delco lighting, starting and ignition; and standard parts axles.*

## MITCHELL

*MITCHELL will have for 1921 a new seven-passenger touring car, and a four-passenger sport. Wire wheels are standard equipment on the sport model. The entire Mitchell line is known as the series F and includes besides the two cars just mentioned a five-passenger touring, three-passenger roadster, five-passenger sedan and four-passenger coupe. All of these models are built on a 120 in. wheelbase chassis excepting the seven-passenger which is mounted on a 127 in. wheelbase. A slight change has been made in the body styles and also in the rear gear ratio. Better carburetion has been secured by hot spotting the manifold. The company makes its own engine which is of the L-head type, 3¾ by 5 in. excepting in the seven-passenger which is 3½ by 5 in. The tire size on all models is 33 by 4 in. excepting in the sport model and seven-passenger where it is 32 by 4 and 34 by 4½ in. respectively.*

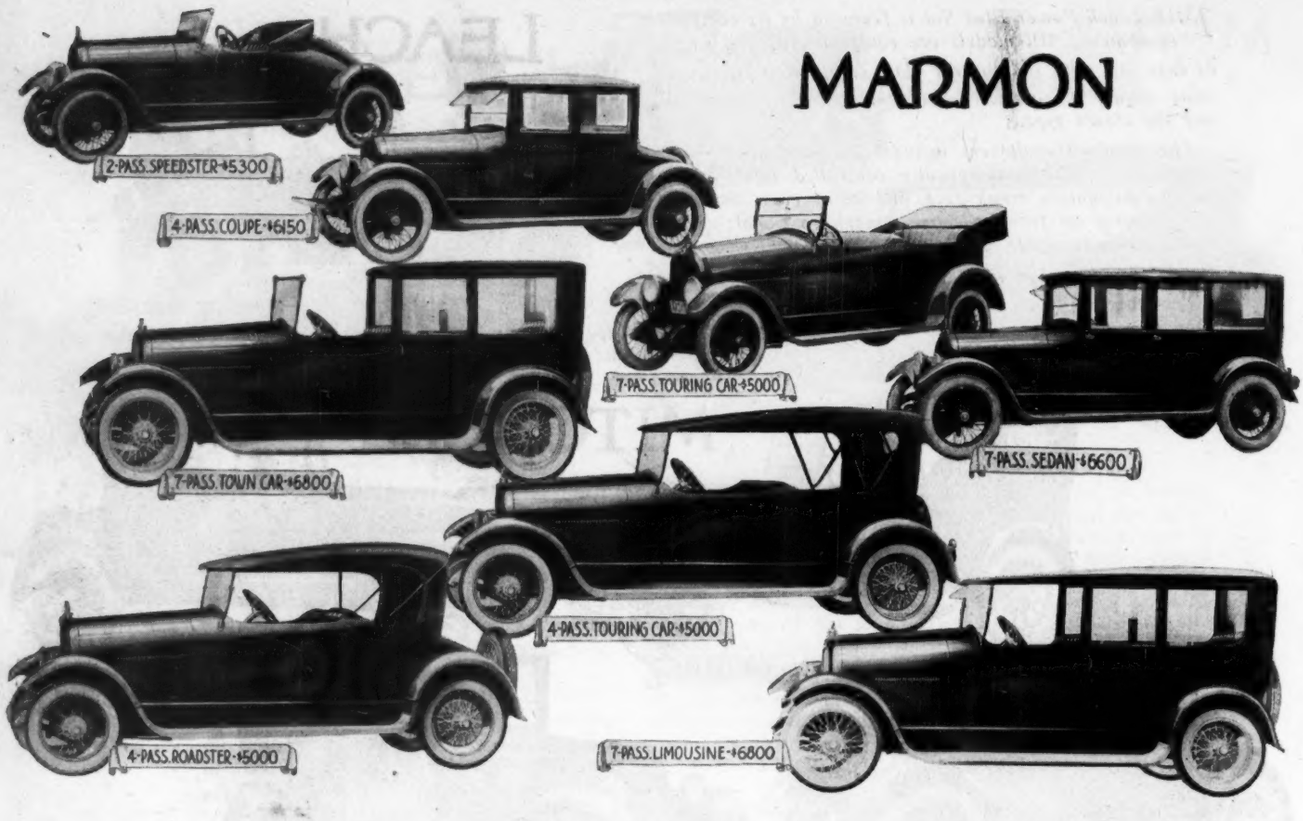
## MAIBOHM




*THE Maibohm line is augmented by a new coupe at $2395, and a custom built special job, which is not priced. Both of these are mounted on the standard chassis. The special job has a khaki top, aluminum steps, cord tires and is fitted with either disk or wire wheels. The upholstery is in leather and the seat is of the divided type.*

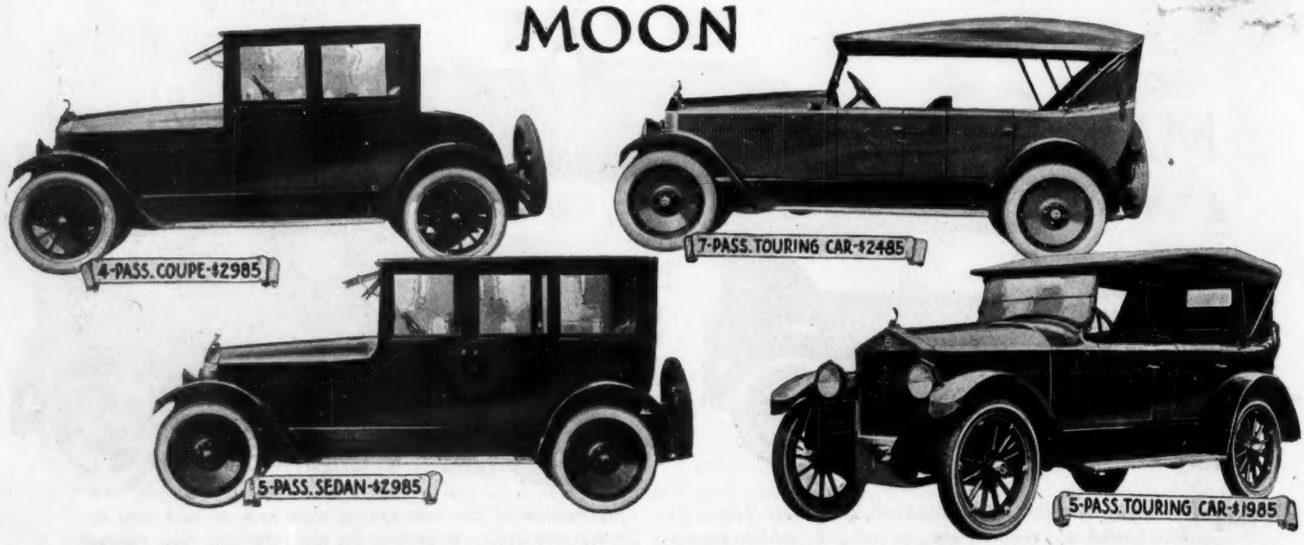
*The changes on the chassis are of a minor nature, the rear springs now have vanadium steel leaves, and the construction of the axle spring seats is now such that the spring seat collar is shrunk on the tube and then riveted. The radiator mounting is also changed so that a minimum amount of vibration will be transmitted from the frame to the radiator. Several color options are available on all of the models, these being dark green, dark maroon, battleship grey and a special color known as biege, which is a little bit darker than khaki.*

# MARMON



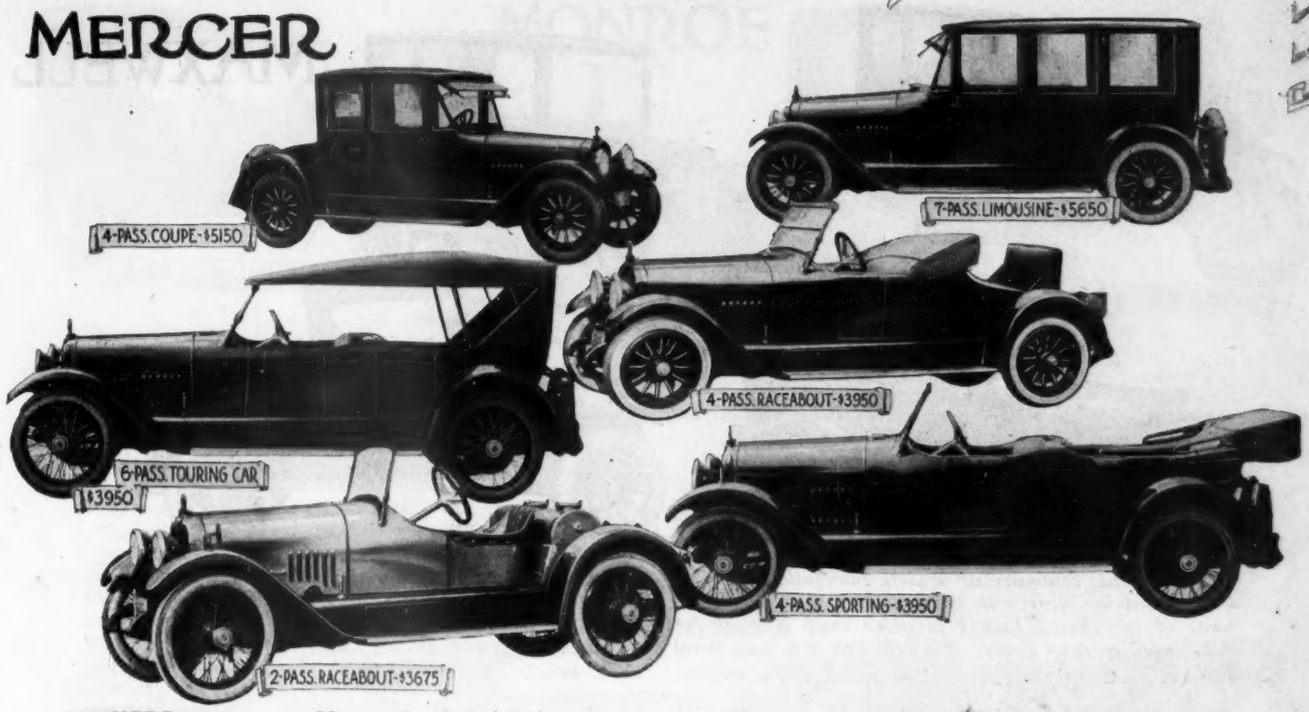

*MARMON will have for this year seven body styles mounted on the 34 chassis. These include a four-passenger roadster, seven-passenger touring, seven-passenger sedan, four-passenger coupe, seven-passenger limousine, seven-passenger town car and a special speedster. In appearance the bodies are very similar to those of last year and embody such well known features as the extensive use of aluminum, special frame and running board construction, cross cantilever springs, etc. The 34 chassis has a 134 in. wheelbase. Marmon makes its own engine, rear axle, clutch, gearset, steering gear, etc. The universal joints are Spicer and starting and lighting is Delco. Equipment includes Vansicklen speedometer, Hartford shock absorbers, Waltham clock, Kellogg tire pump, spotlight and Warner lenses. Some of the engine features include cast iron back bearings fitted without shims; two piece pistons crankshaft with bearings 2¾ in. in diameter; valves in the head 2 in. in diameter, and full pressure lubrication.*

# MOON




*PRICE changes feature the Moon line for 1921. The prices have been raised $200, the touring cars being $2,685 on the 6-68 and $2,185 on the 6-48. The enclosed cars are $2,185. The prices were reduced $40 a few months ago so that the net reduction is $200. Many changes of a minor nature have been made in the bodies and the gearset has been changed from Brown-Lipe to Warner. Equipment is complete.*

# MERCER




*THERE are two new Mercer closed models for 1921, a coupe and sedan. While there have been occasional closed custom bodies on the Mercer chassis, the car has been generally known by its open models only. There has been no change in the chassis, and the closed cars have all the Mercer characteristics, such as low suspension, long wheelbase, low center of gravity, etc.*

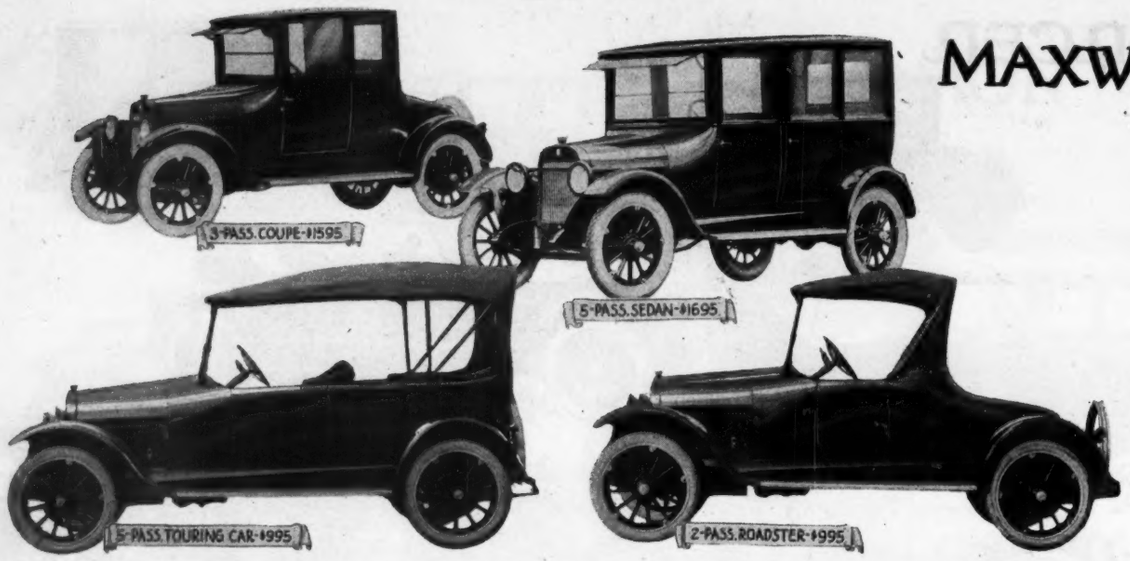
*The new types have been developed since the company has been operated by Hare's Motors. The seating arrangement in the coupe follows the popular type of having the driver's seat slightly in front of the rear seat which accommodates two passengers. There is a storage compartment back of the driver's seat and a larger one in the rear deck. All windows are of frameless bevel plate glass and lower out of sight.*

*The front section is trimmed up to the belt in plain grain leather, the upper part and all of the rear section is trimmed in cloth, a wool rug and silk roller curtains matching the trim. Vanity cases and other accessories are provided and the interior is lighted by a dome light and two corner lights. The other Mercer models include a 5-passenger touring, 4-passenger roadster and runabout.*

# McFARLAN

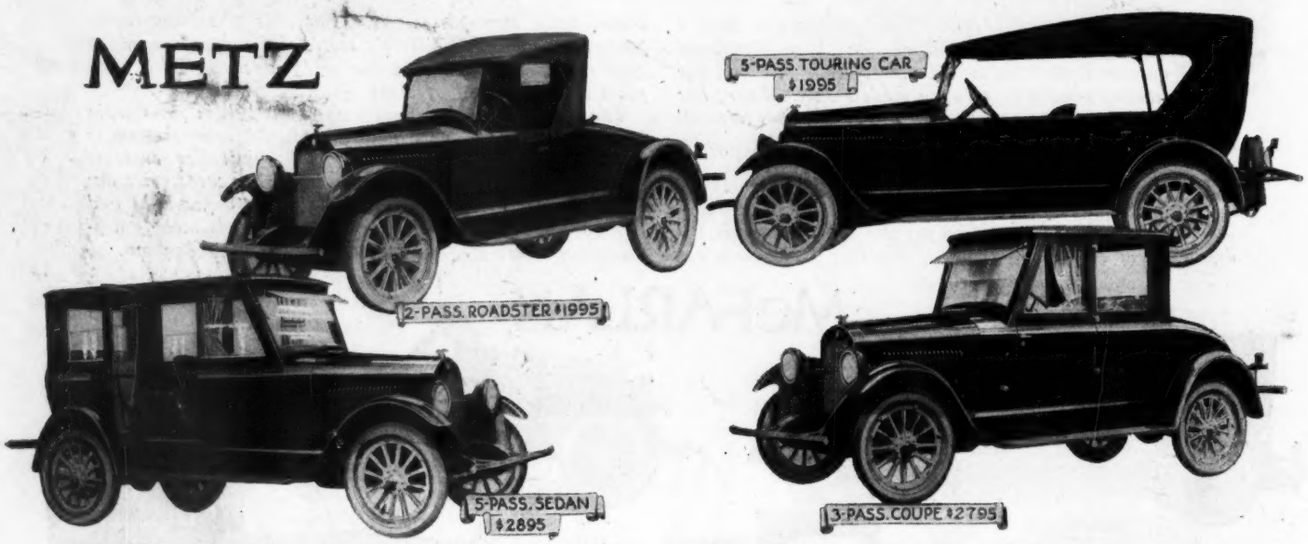
*McFARLAN will produce the same chassis for 1921 as the year previous. The engine unlike that in the majority of cars is of the T head type with 6 cylinders 4½ by 6 in. Both magneto battery and ignition are used. Other units comprise a Brown-Lipe gearset, Borg & Beck clutch, Warner steering gear and Westinghouse electric system. There will be seven body styles all mounted on 140 in. wheelbase chassis. These include a two-passenger roadster, seven-passenger touring, seven-passenger sedan, three-passenger coupe, seven-passengr cabriolet, seven-passenger limousine and seven-passenger town car. Tires on all models are 33 by 5 in. cords.*

# MAXWELL



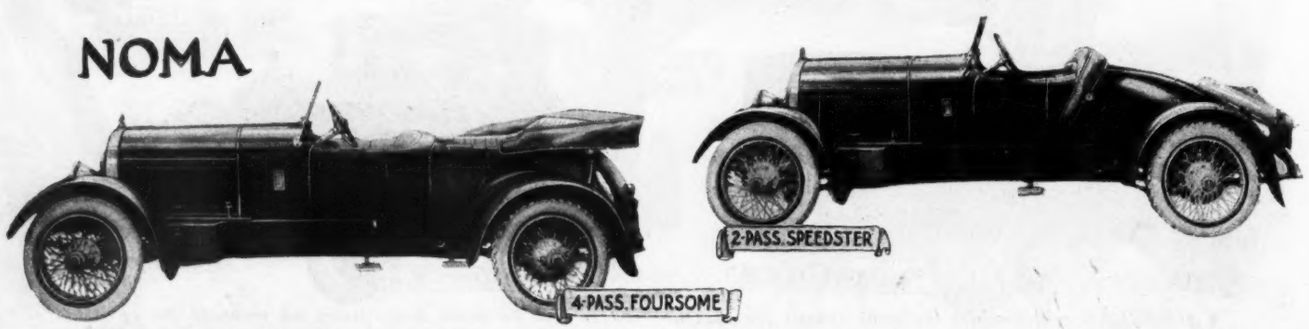

*MAXWELL continues its models substantially as presented last year with the exception that mechanical units of the chassis have been given some thought for greater quietness of action. The rear axle now uses spiral bevel gears, and the engine is fitted with Lynite aluminum pistons. A tubular propeller shaft is used which materially strengthens this member. Truss rods have been added to the rear axle. The bodies are continued with only a few minor changes, among which is that velour is used in the upholstering of the closed jobs instead of whipcord.*

# METZ




*METZ will continue its present model unchanged for 1921. The car uses a six-cylinder engine of 45 h.p. three speed transmission, semi floating axle, semi elliptic springs, with Hotchkiss drive. The tires are 32 by 4 in. The line includes a five-passenger touring, three-passenger roadster, five-passenger sedan and three-passenger coupe with auxiliary seats. The finish of Metz cars is in Cobalt blue with white enameled wire wheels, black fenders, hood and trimmings. The price of the touring and roadster is $1995, coupe $2795 and the sedan $2895.*

# NOMA




*THE Noma line for 1921 will include a foursome and speedster. The former is particularly modish in appearance with battle ship gray body, white wire wheels, nickle radiators and trimmings red, green, blue, gray or black upholstery and tailored top with nickle elbows and arms. The speedster is finished in gun metal gray, the other items being the same as on the foursome. One of the features of this car is the laminated wood construction of the body which is an eight plywood covered with aluminum. The chassis has a 128 in. wheelbase and uses a Continental engine, Timken axles, Stanpar springs, Borg & Beck clutch, Detroit gearset and Cloudel carbureter.*

# MONROE

*THE Monroe is offering four body styles for 1921 built on one chassis the touring, roadster, sedan and coupe. The sedan and coupe are new with the 1921 season. The Monroe is a four-cylinder car with an engine 3¼ by 4½ in. made in its own factory. The wheelbase is 150 in. and the car uses well known units such as the Muncie clutch, mechanics gearset, C. A. S. steering gear, Auto-Lite starting and lighting system. The touring car is a five-passenger, the roadster two-passenger, the sedan five-passenger and the coupe four-passenger.*

# NASH

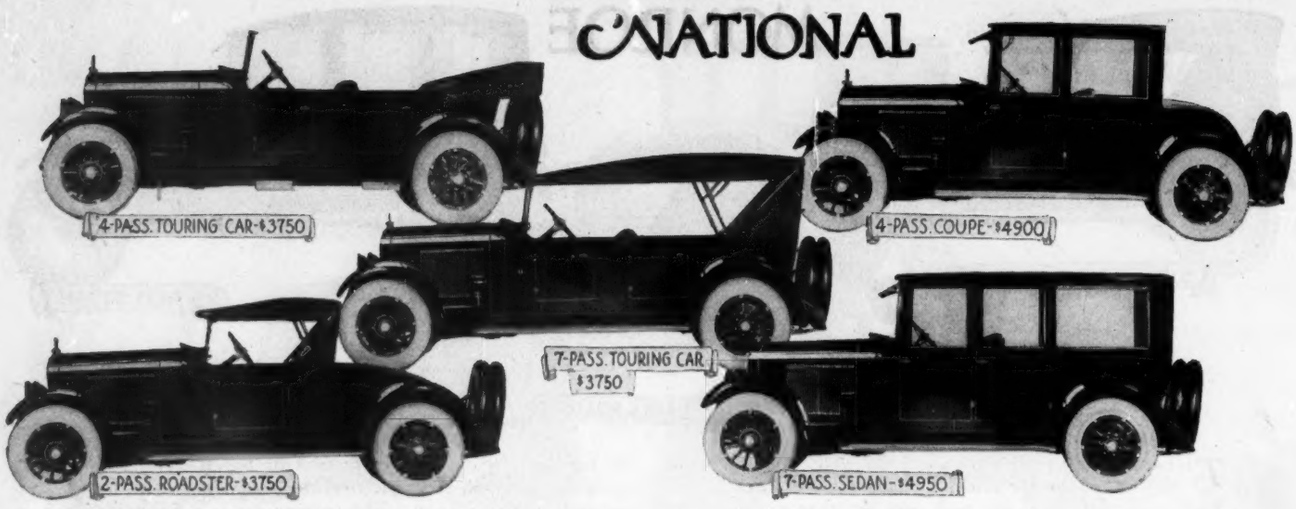
*INTEREST in the Nash line for 1921 will center around the four-cylinder car, a small brother to the present six. The cylinder dimensions are the same but the wheel base is 116 in. or five inches shorter than the Six. Tires are 32 by 3½ in. cords. There are no changes in the Six which for this year will appear in a two-passenger roadster, five-passenger touring, seven-passenger sedan, seven-passenger convertible sedan, four passenger coupe, and four-passenger sport model. All of these are painted blue with the exception of the sport which is green. Nash cars use the Wagner starting, lighting and ignition system and Gemmer steering gear. Outside of a few units like the clutch which is a Borg & Beck, carbureter, spark plugs, etc., practically all of the car is built in the Nash factory. Stock equipment includes Firestone rims, clock, curtains that open with doors, and non-glare lenses.*

# OWEN MAGNETIC

*THE Owen Magnetic for 1921 will appear in much the same manner as heretofore. The magnetic transmission is a feature and the electric brake on the control lever makes the car easy to handle. When a stop is necessary the control lever can be thrown from high into neutral, automatically throwing the electric brake which takes effect immediately. This automatically reduces the speed of the car and with foot brake it may be stopped quickly.*

*In front of the radiator a splasher has been designed which blends into the two side members of the frame. The engine is a six-cylinder, cast in pairs of three, made by the company. The car has a 142 in. wheelbase.*

# NATIONAL

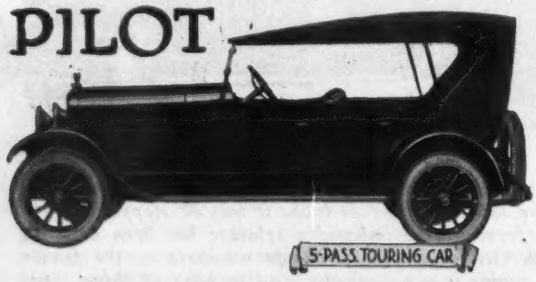



*THE current National Sextet model, announced last year, is continued for 1921 without any change. The chassis for all models remains with 130-in. wheelbase and a clean cut six-cylinder engine. All five models present a low hung appearance gained by the method of body mounting, in which the body is suspended on brackets riveted several inches below the upper edge of the chassis frame, instead of setting on top of the frame. Through this method, the body sides have been lowered several inches closer to the ground, without sacrifice of body depth or road clearance, and the high, convential running board has been reduced to a trim and slender balance. The National line now includes a seven-passenger touring, four-passenger phaeton, roadster, seven-passenger sedan, and coupe. The length of the cowl has been increased in the four-passenger and the rear seat slightly narrowed to hold two passengers. The steering wheel also is tilted at a more rakish angle and there is a brief afterdeck.*

# OLDSMOBILE

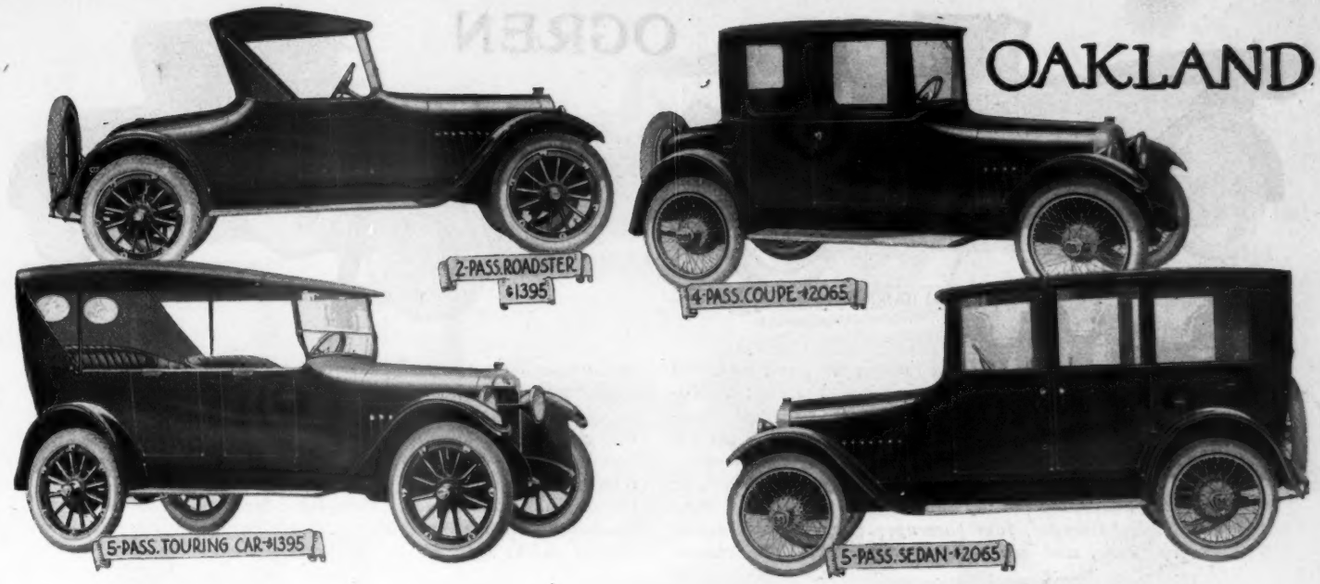
*OLDSMOBILE will continue to build the two chassis turned out in 1920. These are a six-cylinder and an eight-cylinder. In addition two other models have been added, a four-cylinder known as the 43-A model and a light eight-cylinder model. The new eight resembles in general other Oldsmobile models. The most striking feature is the low suspension. It is built on 115 in. wheelbase chassis and in place of the one water pump on the Oldsmobile big eight the smaller eight has two mounted transversely at the front of the engine and in an accessible position. The small eight is finished in dark blue with a light blue mold at the top. The wheels are a natural finish. The crank cheeks on the crank shaft are so curved that their center of mass is also their center of gravity, thereby giving a natural running balance. Other features of the Oldsmobile remain substantially the same.*

# PILOT




*PILOT for the coming year is a new car in many respects having semi-elliptic springs front and rear with Hotchkiss drive, where formerly the cantilever rear spring was used. This construction has made it possible to clean up the chassis a good deal eliminating such parts as torque rods. Pilot is one of the very few using the Teetor Hartley engine of 3⅛ by 5 in. The Delco ignition was equipped last year and is continued. A number of bodies are fitted to the 120 in. chassis, including a five passenger touring, three passenger roadster, five passenger sedan and four passenger coupe.*

# OAKLAND




*THERE are four body styles in the Oakland line for 1921, including a touring car, roadster, sedan and coupe. There has been no change in the design or construction of the chassis and the only change in the bodies lies in the use of wood for the seat risers and other parts in place of the former metal. These cars have a deep frame section and the rear engine support forms part of the engine assembly. The engine is a six-cylinder, 2 13/16 by 4¾ in. with valves in the head. The rear cross member on the frame adds stiffness to the chassis and protects the gasoline tank. Remy starting and lighting system is used on all models. The wheelbase is 115 in. The sedan and coupe is fitted with window regulators and heater. Equipment is most complete.*

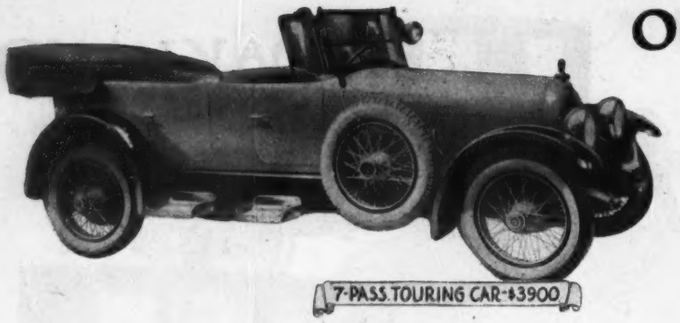
# OVERLAND

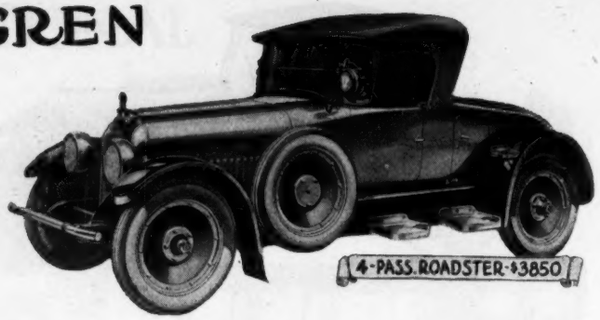
*OVERLAND will concentrate its production on the Overland 4, the small car of which 126,000 have been sold. Its novel spring suspension affords a longer body on a comparatively short wheelbase, the latter being 100 in. The engine is a four-cylinder block cast job 3⅜ by 4 and rated at 18 h.p. The Auto-Lite electric system is used and the carburetor is a ¾ in. Tillotson. Cooling is by thermosyphon with cellular radiator. The clutch is a single plate floating ring type and operates in oil. In unit with the engine is a three-speed transmission from which the drive to a three-quarter floating rear axle is taken by 1⅜ in. propeller shaft. The steering gear is of a planetary type. Wood wheels are used with 30 by 3½ in. tires. The body line includes a five-passenger touring, sedan, two-passenger roadster and coupe.*

# HARROUN

*THE 1921 Harroun is featuring a chassis embodying simplicity of design, unit running board assembly, Thermoid Hardy universal joints, rear sub-frame to carry load to tank and tire and simplicity of brake rods and application. The wheelbase is 106 in. and the power plant is a four cylinder 3¼ by 5¼ engine. Force feed and splash lubrication and thermosyphon cooling are employed. The front springs are semi-elliptic and the rear full cantilever. Only one body model is offered, a five passenger touring car finished in Liberty blue. The hood, fenders, radiator shell and axle are finished in black and the wheels and running board in khaki.*

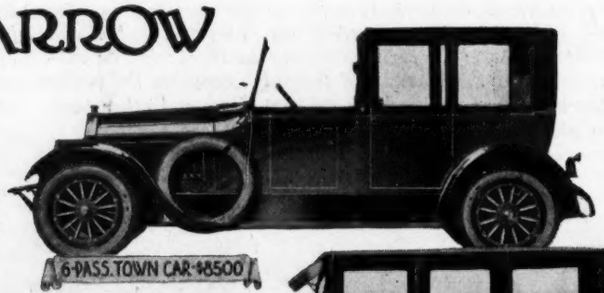
# OGREN

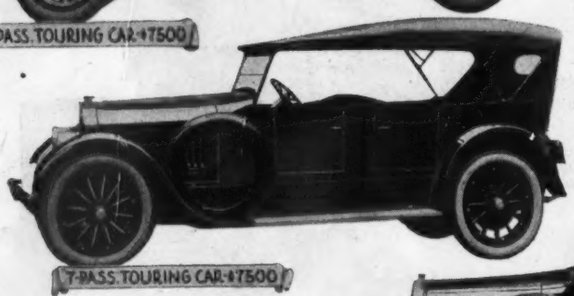


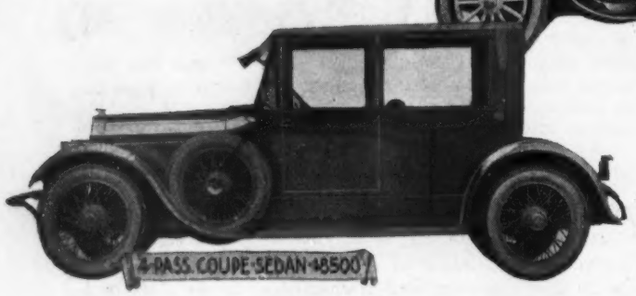



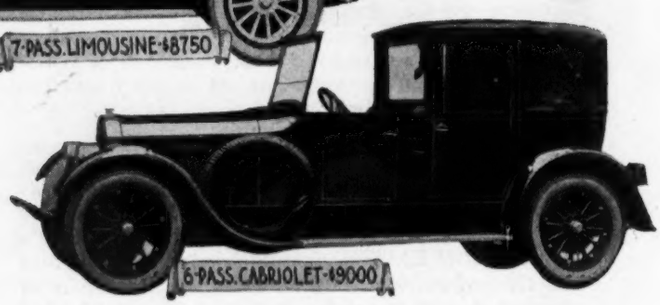

*THE Ogren car, which for a number of years was built in Chicago by Hugh Ogren, is now being built in Milwaukee and the new design which has recently been completed has many of the characteristic earmarks of the old Ogren, especially in regard to its radiator design. Five models on the one standard chassis comprise the line. The body line includes a touring car of seven passengers, sport model two-passenger, four-passenger coupe, seven-passenger limousine, and seven-passenger sedan. The chassis has a wheelbase of 134 in. and is powered with an engine made by the Beaver Engine Co. according to Ogren design, having a bore and stroke of 3½ by 5¼ in. Ignition is through Bosch magneto with a full pressure feed lubrication system. The starting and lighting system is also Bosch make. A multiple dry disk clutch is used with a three-speed transmission. Running boards are not used, being supplanted by individual step plates. Spare tires are carried on the side.*

# PIERCE-ARROW



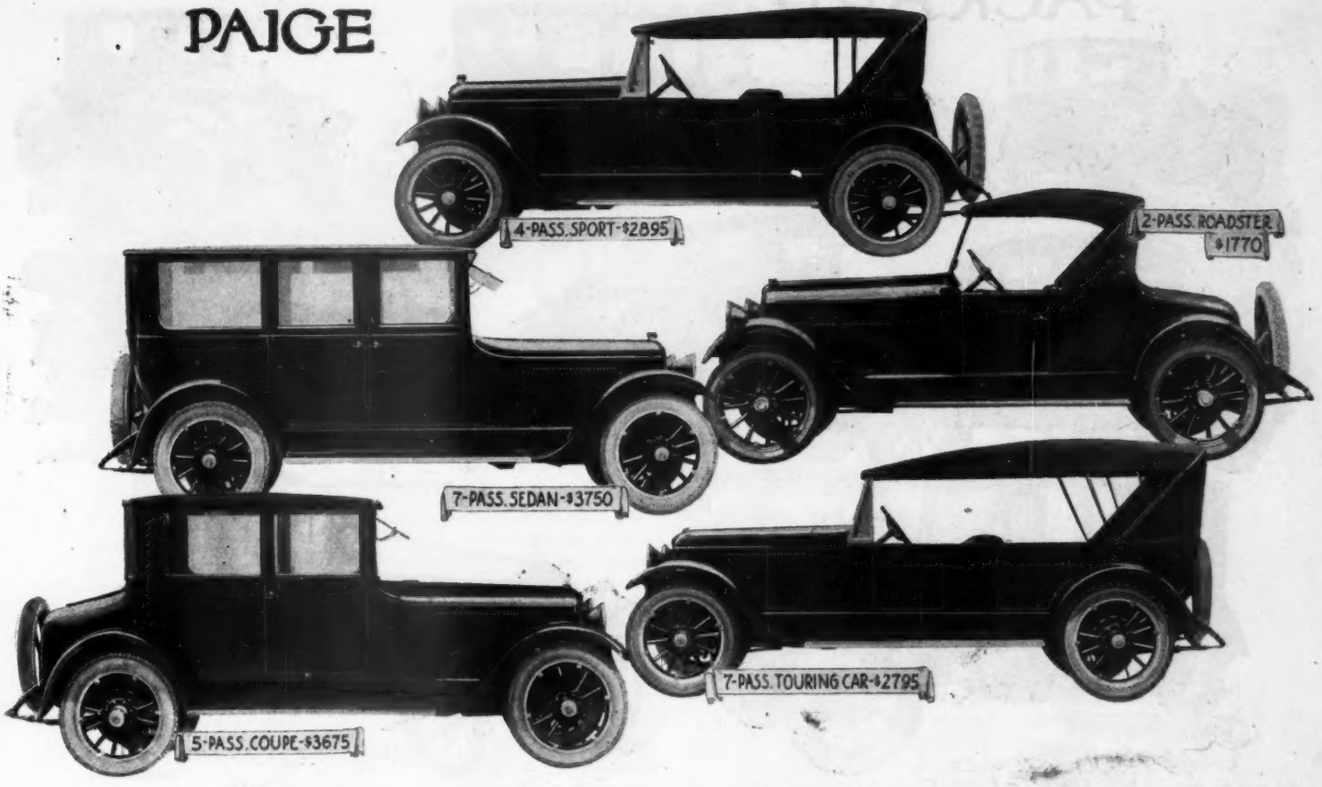






*PIERCE ARROW is represented by a completely new line, all models of which are mounted on one chassis, supplanting the two older models, the 38 and 48. The new car with a wheelbase of 138 in. has dual valve T-head, inclined valve, block cast, 4 by 5½ in. engine. T pressed steel cover is fitted over the engine top completely enclosing spark plugs which is an innovation in American practice. Semi-elliptic springs are used instead of the former three-quarter elliptic. Band brakes are used instead of shoe brakes ,and the steering is now moved to the left side. Pierce being the last American car to have the right hand drive, except one. The transmission is still amidships. Dual ignition is used, this being Delco. The body line is complete and includes ten styles of bodies.*

# PAIGE




*THE Paige line for this year contains a new model which together with the Paige 6-42, constitutes the entire offering of this company. The new model is of the first to use the new Continental six cylinder L-head engine—model 8-A with bore and stroke of 3¾ by 5, giving it a rated horsepower of 33.75. The full force feed lubrication system is employed in this engine which is a distinct trend inasmuch as the plunger driven oil pump with splash oiling was formerly used. The wheelbase of the new model is 131 in. which is standard for the four different types of bodies mounted on this one chassis. Long semi-elliptic springs are used instead of cantilever. The body styles are a sedan-seven passenger, a four-passenger coupe, a seven-passenger touring car and a four-passenger sport model.*

*In this new model a departure from precedent in windshield construction is noted. The new shield is an aluminum casting having side panels incorporated which provide for the side glasses. This makes the windshield wing an incorporated part of the shield. Unique cowl lights are fitted into the windshield as an integral part. The smaller model, the 6-42 is continued much the same as in last year's offering.*

*This car has an engine having a bore and stroke of 3⅛ by 5 in. which gives it a rated horsepower of 23.44. The chassis is standardized on one wheelbase of 119 in. on which four different styles of bodies are mounted. These are a five-passenger touring, a three-passenger roadster, a four-passenger coupe and a five-passenger sedan.*

# PREMOCAR

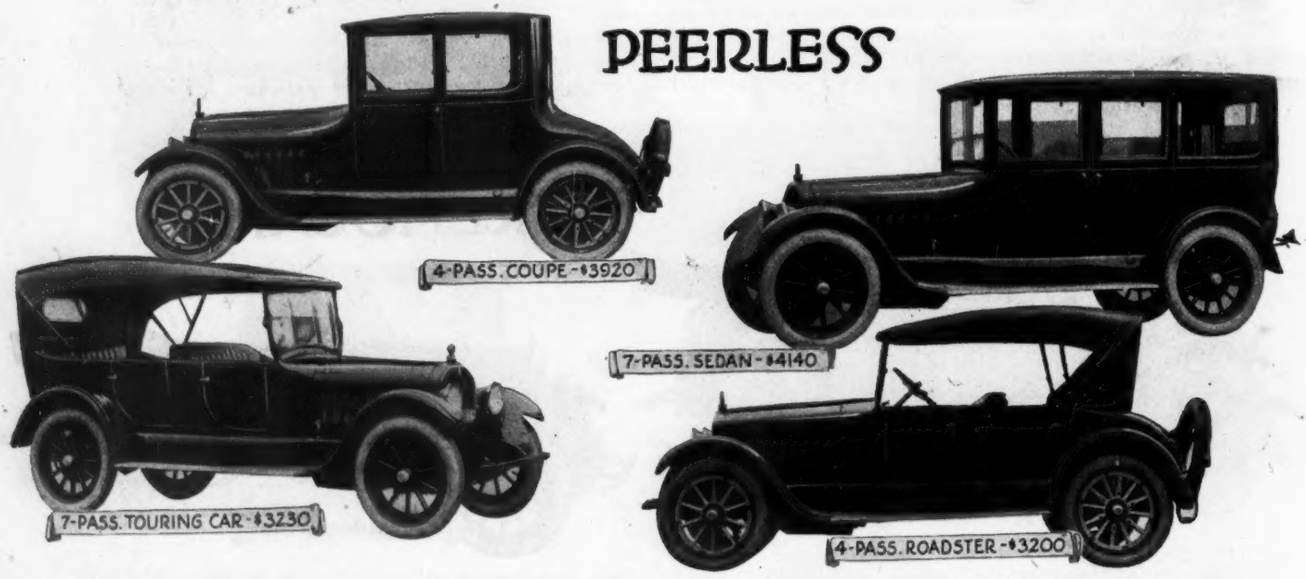
*TWO Premocar five-passenger models will be made for 1921. The Magic six and the Special with a Dusenberg engine. Both have a wheelbase of 117 in. and conform to the same general design. The Magic Six has the Falls six-cylinder engine, Zenith carbureter; Connecticut ignition; Dyneto starting and lighting system; Borg & Beck clutch and Universal propeller shaft.*

*The Special has a Bosch magneto; Westinghouse lighting and starting system; Warner clutch and transmission; Universal propeller shaft; Timken Detroit axles, wire wheels, cord tires, bullet lights and parking light on left rear fender are standard equipment on this car.*

# PACKARD

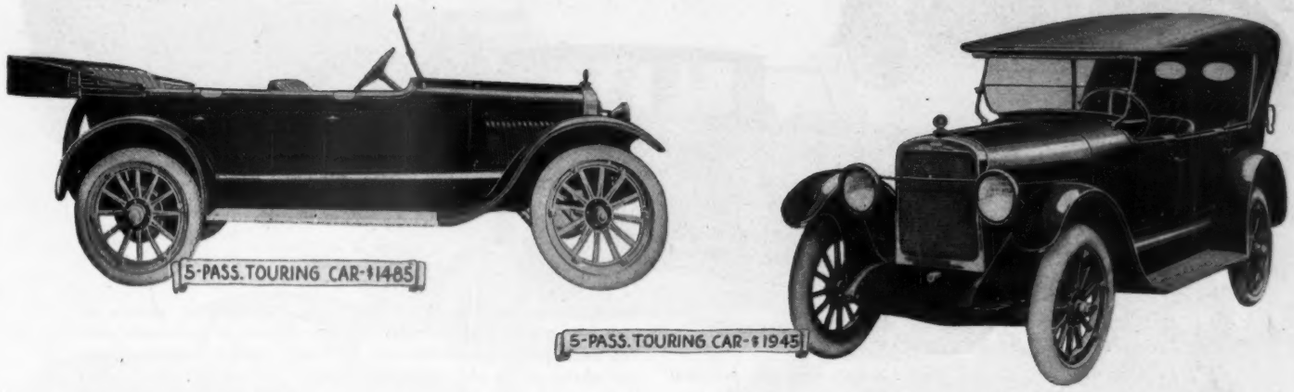
*PACKARD motor cars for 1921 will include six body models on the Twin-Six chassis and four body models on the Single-Six chassis. The Twin-Six line will embody a touring model, seven-passenger; phaeton, five-passenger; runabout, two-passenger; limousine, seven-passenger; Duplex sedan, seven-passenger; and Duplex coupe, four-passenger. The Single-Six line will comprise a touring model, five-passenger; runabout, two-passenger; sedan, five-passenger; coupe, three-passenger. The Twin-Six line is a continuation from last year, and is practically unchanged except for minor improvements and refinements. The power plant of the single six is one of the achievements of the year both in point of horsepower development for piston displacement and in accessibility. The auxiliary units of the motor are independently driven and no one unit is driven through another. The Packard fuelizer announced during the year past is continued for this year and is standard on both the twin and single six.*

# PEERLESS



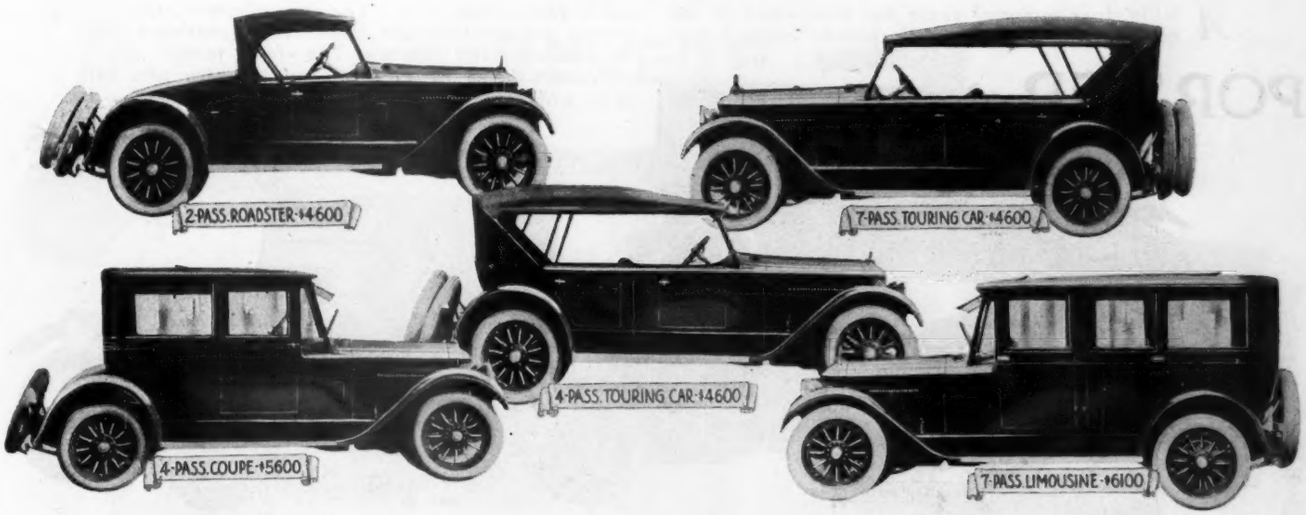

*SINCE the first conception of the Peerless Eight there have been no radical changes in design. What changes there have been consist of refinements only and in keeping with this policy of developing the line, the Peerless for this year incorporates a newly designed transmission which retains all the features of the old transmission with the refinements it has been found possible to make. The new gearset is made completely in the Peerless factory as are newly designed front and rear axles. The instrument board has been re-arranged so the dials present a pleasing array and all are within full view of the driver. The Peerless line includes a very complete line of bodies.*

# PIEDMONT




*THE Piedmont line for 1921 will consist of two different model chassis. The 4-30 model which is built on a 116 in. wheelbase and the 6-40 model which is built on a 122 in. wheelbase. Both models are of the five-passenger touring car type ,and numerous improvements have been made in designing both the bodies and chassis. Nickel-plated radiators and Motometers, also No-glare patented head lamp lenses are standard equipment on both models. The year's development in the 6-40 model is noticed chiefly in the radiator, which has been raised 3 in., tending to give a straighter line to the hood. The drive shaft has been replaced by flexible disc joints and tubular shaft, instead of metal enclosed joints. The braking system has been improved by compounding the foot-brake. Changes made in the 4-30 model chassis include a spiral bevel gear differential, roller bearings in the front wheels, and vanadium steel springs. the 6-40 model is powered with the Continental Red Seal engine and the 4-30 model with the incomparable Lycoming engine. The Grant-Lees transmission is mounted as a unit with the engine which also includes the Borg & Beck clutch, in both models. The bodies of both models are distinctively different, and are of the half-oval bevel edge type. Each of these models is furnished for export, and in addition to all the standard specifications include magneto ignition and right hand drive steering. The general color scheme consists of a dark green body and hood, nickel plated radiator, hub caps and lamp trimmings, black fenders and wheels.*

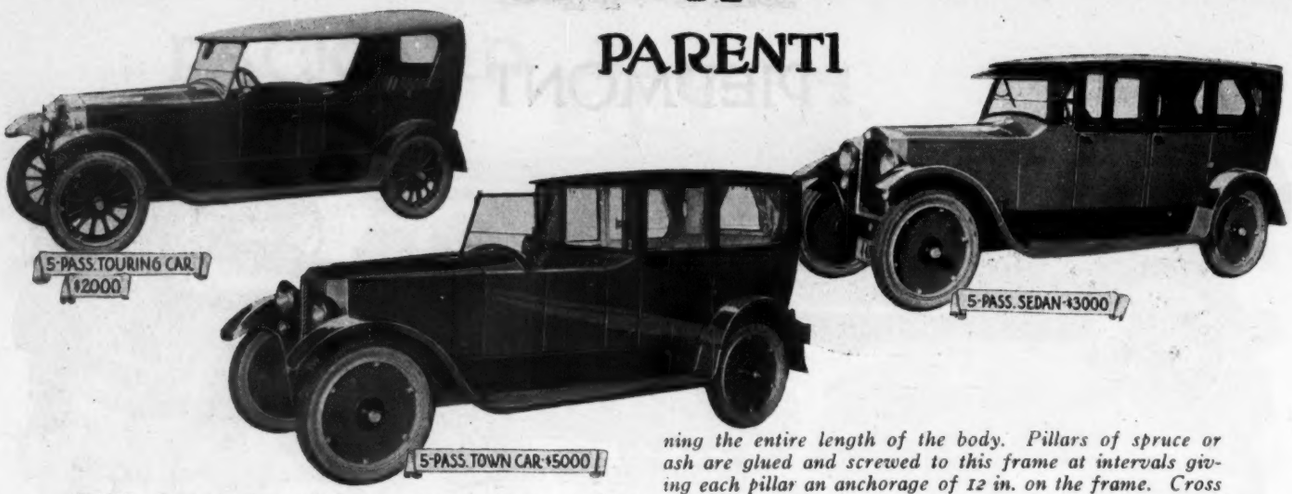
# PREMIER




*ONE standard chassis of 126¾ in. with a full complement of high grade bodies constitutes the Premier line for 1921. The chassis is continued over with only minor refinements, and no changes in the features which characterized the last year's line. The aluminum engine with wet iron inserted sleeves is retained. The five types of bodies are four and seven-passenger open car, two-passenger speedster, four and seven-passenger closed models. A peculiar curved effect given the upper part of the Premier bodies which is continued from the V type radiator back to the rear is a patented feature of the car.*

*Premier is the only American car with electric gear shift. This is operated by a small selector lever on the steering post which operates the gear selector and clutch pedal movement and then completes the gear shift. Body work is exceptionally heavy, the doors being 3 in. thick which is good protection against body weave and squeaks. A rigid bronze casting composes the windshield. All body trimmings such as door handles are cast nickle alloy and therefore cannot rust.*

# PARENTI

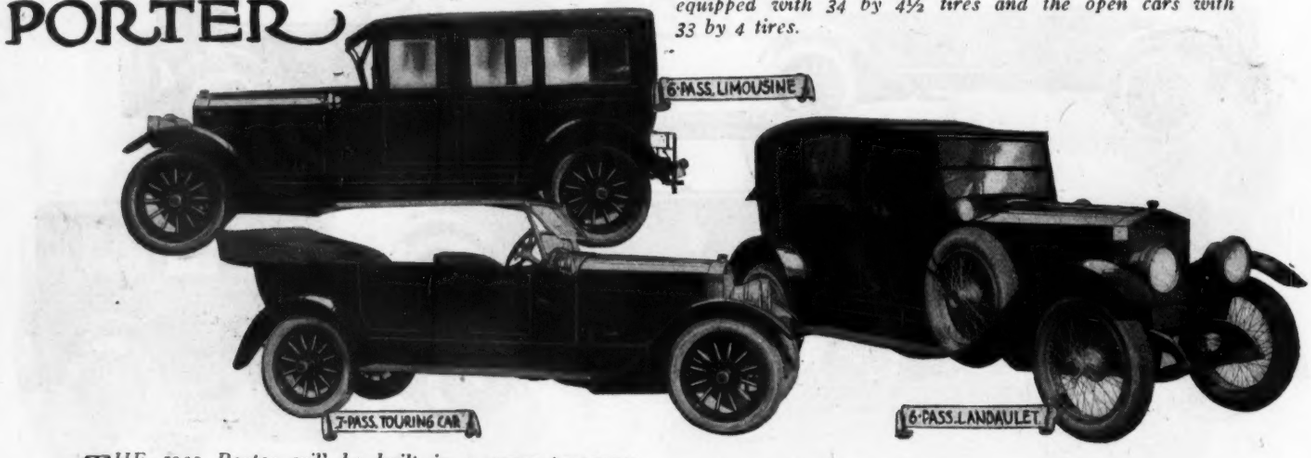



*THE Parenti air cooled car shows several original features, prominent among which is the flexible rear axle which is formed from the springs. A new departure in frame and body design is also used, the body and frame being one unit. The frame consists of two panels of 5-ply plywood each being 12 in. wide and ¾ in. thick, running the entire length of the body. Pillars of spruce or ash are glued and screwed to this frame at intervals giving each pillar an anchorage of 12 in. on the frame. Cross members of 5-ply plywood extend across the body and joins each pair of pillars right and left. Panels of 3-ply plywood are screwed and glued both inside and outside this skeleton frame-work, giving a solid body and frame unit, which weighs less than 300 lb. The touring car and sedan constitute the body models for 1921.*

# PATERSON

*A NEW four-passenger coupe has been added to the 1921 Paterson line. A 7 R Continental engine is now used in place of the 7 W. The five and seven-passenger touring and five-passenger sedan will be continued without any noticeable changes. The closed models will be equipped with 34 by 4½ tires and the open cars with 33 by 4 tires.*

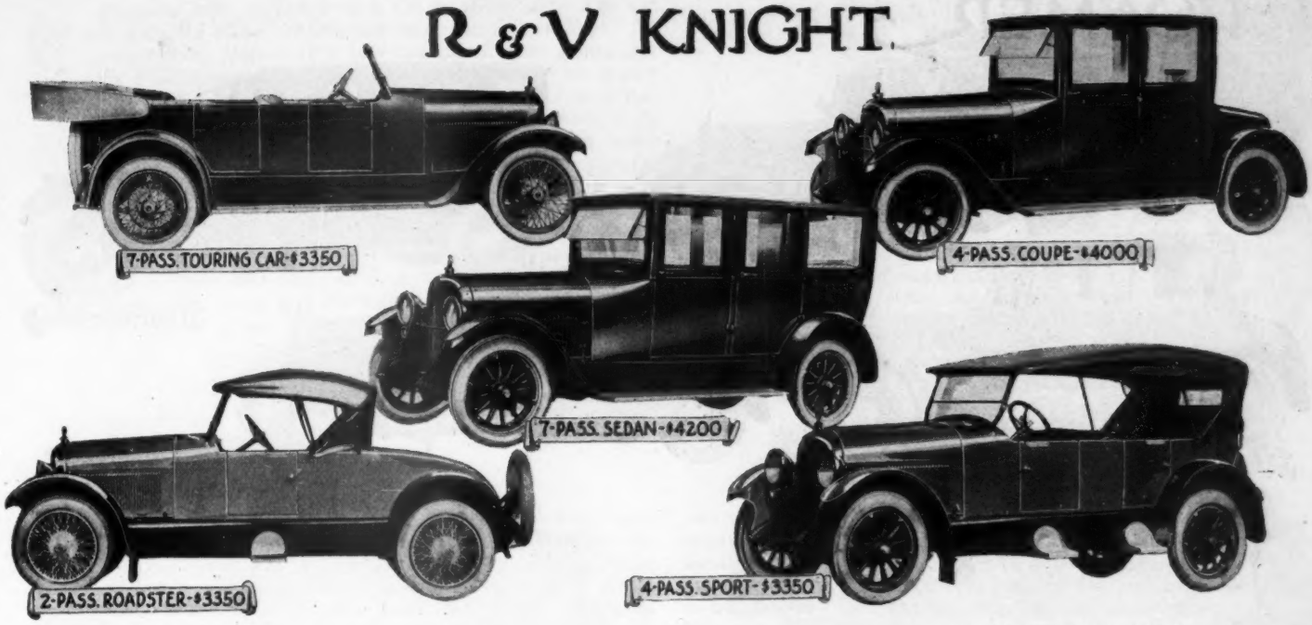
# PORTER




*THE 1921 Porter will be built in a seven-passenger limousine, seven-passenger touring, four-passenger landaulet and a seven-passenger inside drive limousine. All bodies are Brewster except the seven-passenger touring which is by Blue Ribbon. The Porter uses a four-cylinder engine with dual valves in the head and removable cylinder heads. The engine is a 4.6 by 6.75 with magneto ignition utilizing one Berling two-spark magneto with independent battery ignition having separate sets of plugs. The lighting and starting system is a Westinghouse 12-volt with Prest-O-Lite battery.*

*Wood wheels with Firestone rims are used (wire are optional) and stock equipment includes 35 by 5-in. cord tires. The equipment includes a Stewart speedometer, Hartford shock absorbers, Golde one-man top, Waltham clock, Detroit power tire pump, distance type motometer, complete set of tools, plus two spare rims, in the case of wood wheels, and two wheels, in the case of a wire wheel job and a Westinghouse starting system. The Porter car has a 142-in. wheelbase.*

# R & V KNIGHT



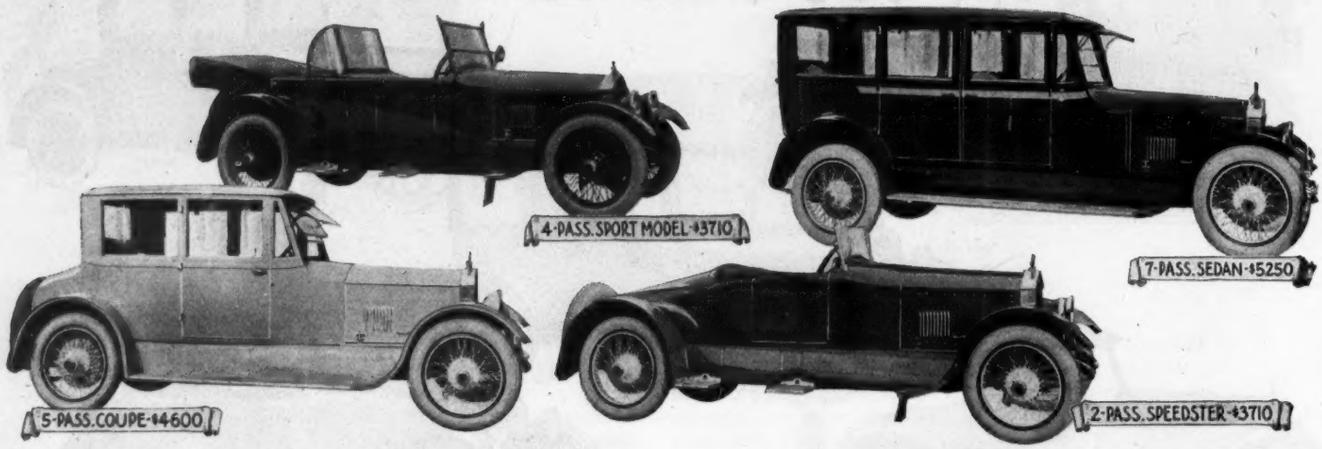

*THE 1921 R & V Knight car is a continuation in the main of the 1920 model. Some refinements have been made in the car during the season, but they are not of a conspicuous nature. There have been improvements in the engine and a number of little changes in the body have been made. The six-cylinder R & V Knight is equipped with a 3½ by 4½ engine, unit power plant, Wagner starter, Brown-Lipe transmission, Borg & Beck clutch, Wagner ignition and lighting, tubular radiator, thermosyphon cooling and Timken axles. The body styles include a seven-passenger sedan, a four-passenger coupe, a seven-passenger touring car, a four-passenger sport car and a two-passenger roadster, all mounted on the same 127-in. wheelbase chassis.*

*A new R & V Knight car makes its appearance with the shows, and will be known as the Model R. This will be a four-cylinder car on a 116-in. wheelbase. The units are the same as those of the six-cylinder job, with the exception of the axles, which are of Salisbury make. For the present this car is made in only two body styles—the five-passenger sedan and the five-passenger touring. Equipment is complete.*

# REVERE

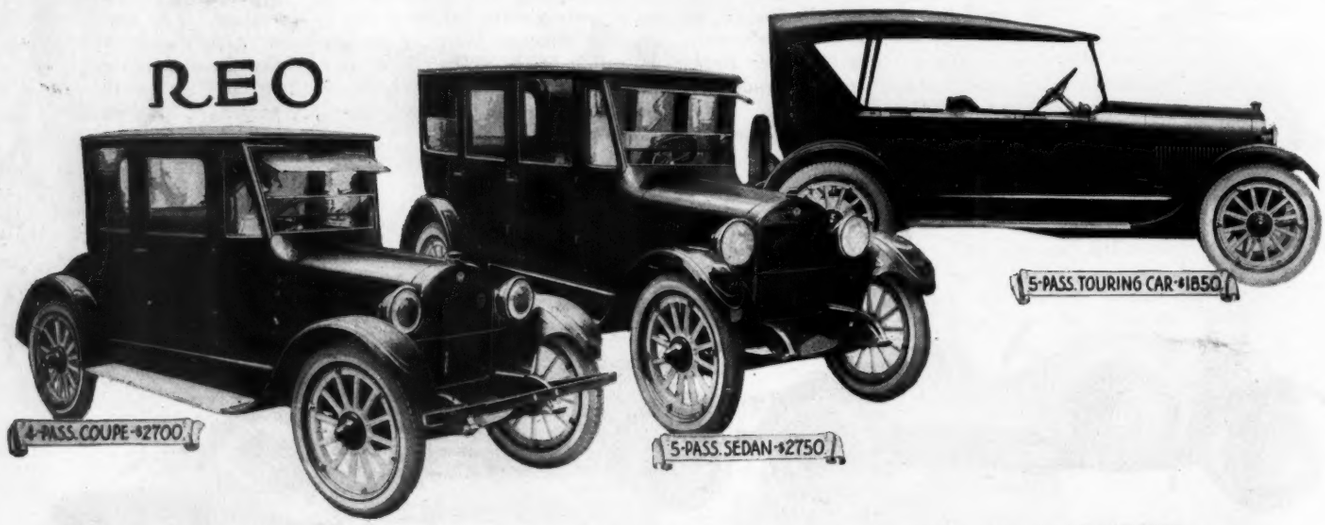
*THE 1921 ReVere is equipped with only one type of engine, a 4¼ by 6 Duesenberg, using horizontal valves. The timing gear construction uses the silent chain drive. The engine is a four-cylinder and there is no change in the length of the wheelbase. The ReVere company will build a two-passenger sport model, a two-passenger with collapsible rear seat, four and five-passenger touring cars, and a four-passenger sedan. The equipment includes Bosch magneto, Brown-Lipe, four speed forward transmission and an axle made by the Standard Parts company having a gear ratio of approximately 3½ to 1 on direct drive. Bijur starting and lighting system is used.*

# ROAMER




*THE Roamer line for 1921, aside from the touring car, will include a new five-passenger and seven-passenger sedan and speedster. The five-passenger sedan has been designed for both city and country driving. A large plate glass window, in the rear, affords clear vision and a ground glass visor protects the windshield from rain and also eliminates glare. The seven-passenger sedan is mounted on a 138 in. wheelbase chassis and, as a result, affords a roomy body. The treatment of the top is carried out in the same manner as in the new coupe with a little more arch because of its greater length. The body is of aluminum with outside locks for the front and rear compartments. One of the features of the new speedster model is the concealed top which is carried under the rear deck when not in use. Even with the top concealed there is ample space for luggage. One of the chief features of the Roamer cars is the double cantilever springs which were incorporated into the Roamer design a little over a year ago. In the model G-6-54 the Continental engine is fitted while the D-4-75 has the Duesenberg engine.*

# REO

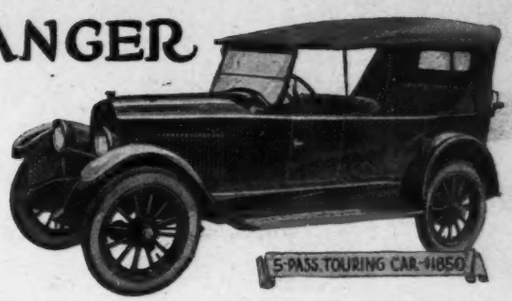



*FOR the third successive year the Reo Six, manufactured by the Reo Motor Car Co. is, with the exception of minor improvements, unchanged. On the six-cylinder chassis four types of passenger bodies are built, roadster, touring, sedan and coupe. Elimination of unnecessary weight, consistent with strength and correct construction, have guided the engineering of the new bodies. Clean cut in design the mechanical features are so built that each unit is so separated from the others as to facilitate inspection or adjustments. The L-head type of engine is used, constructed to promote the highest efficiency and economy of operation. In external appearance the four Reo models are striking and yet sufficiently conservative in design as to appeal to every class of buyers. Unusual comfort and beauty is found in the closed models. The aluminum body construction makes for light weight.*

# STANWOOD

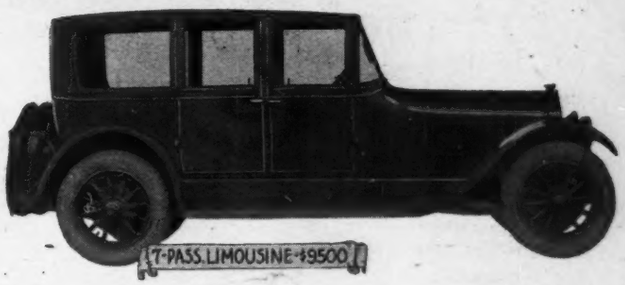
*THE Stanwood is an assembled job of medium size and weight. A Continental 7 R engine 3¼ by 4½ in., a Borg & Beck clutch and a Grant-Lees transmission make up the unit power plant. The chassis has a wheelbase of 118 in. and is supported on semi-elliptic springs measuring 38 in. for the front and 57 in. for the rear. Only one body type is offered, a five-passenger touring finished in Brewster green and upholstered in genuine leather.*

# RANGER



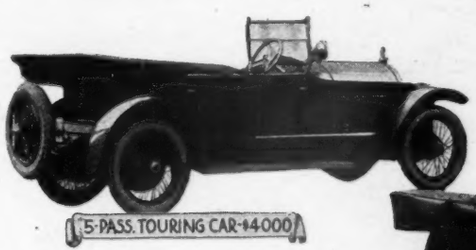

*THE Ranger Four is produced to meet particularly the exigencies of southern road conditions. It is a medium-sized type, mounted on a 116 in. wheelbase. The car is designed along conservative and conventional lines. Its outstanding feature is a four-cylinder L-head engine 3⅜ by 5 in. designed and built by the company. This engine has an S. A. E. rating of 18 h.p. and develops an actual brake horsepower of 39 at 2200 r.p.m. Lubrication is by means of a self-contained, positive pressure system, using an internal gear pump which is driven by gears off the extreme end of the camshaft. Cooling is by a thermo-syphon system. Fuel is fed by means of a Stewart-Warner vacuum feed from a tank in the rear to a Zenith carburetor. Connecticutt ignition, Bijur two-unit starting and lighting and USL 80 amp. hour, 6 volt battery are used. The clutch is a Borg & Beck and the transmission a Detroit. Drive is the Hotchkiss type with underslung rear springs. The Ranger Body is a bevel edge, conservative sporting type, either in Ranger maroon or Belvins blue, with black enameled hood, chassis and fenders.*

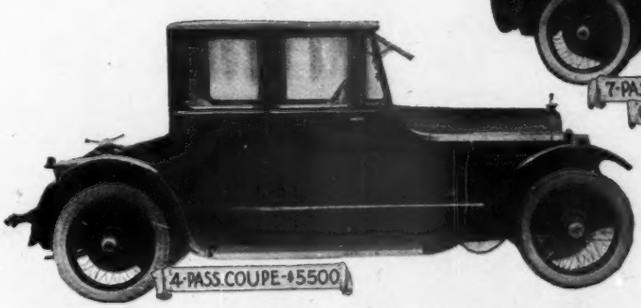
# STEVENS-DURYEA




*STEVENS-DURYEA, after an interval of years during which no Stevens cars were produced has again entered the field, and the car presented being in the quality class is a continuation of the old Stevens-Duryea with many refinements and improvements. The power plant is a six (six cylinders being used as standard by this company since 1905) 4 7-16 by 5½-in. The oiling system is a combination of pressure and splash with pressure leads to the main bearings and splash to the other parts. A Westinghouse two unit electric system is used together with a Berling magneto for ignition. Ball bearings are used throughout the transmission clutch and rear axles. In fact all bearings are fitted with balls except in the engine. Four body styles are announced for the present which include a seven-passenger touring car, four-passenger brougham, seven-passenger vestibule sedan and a limousine.*

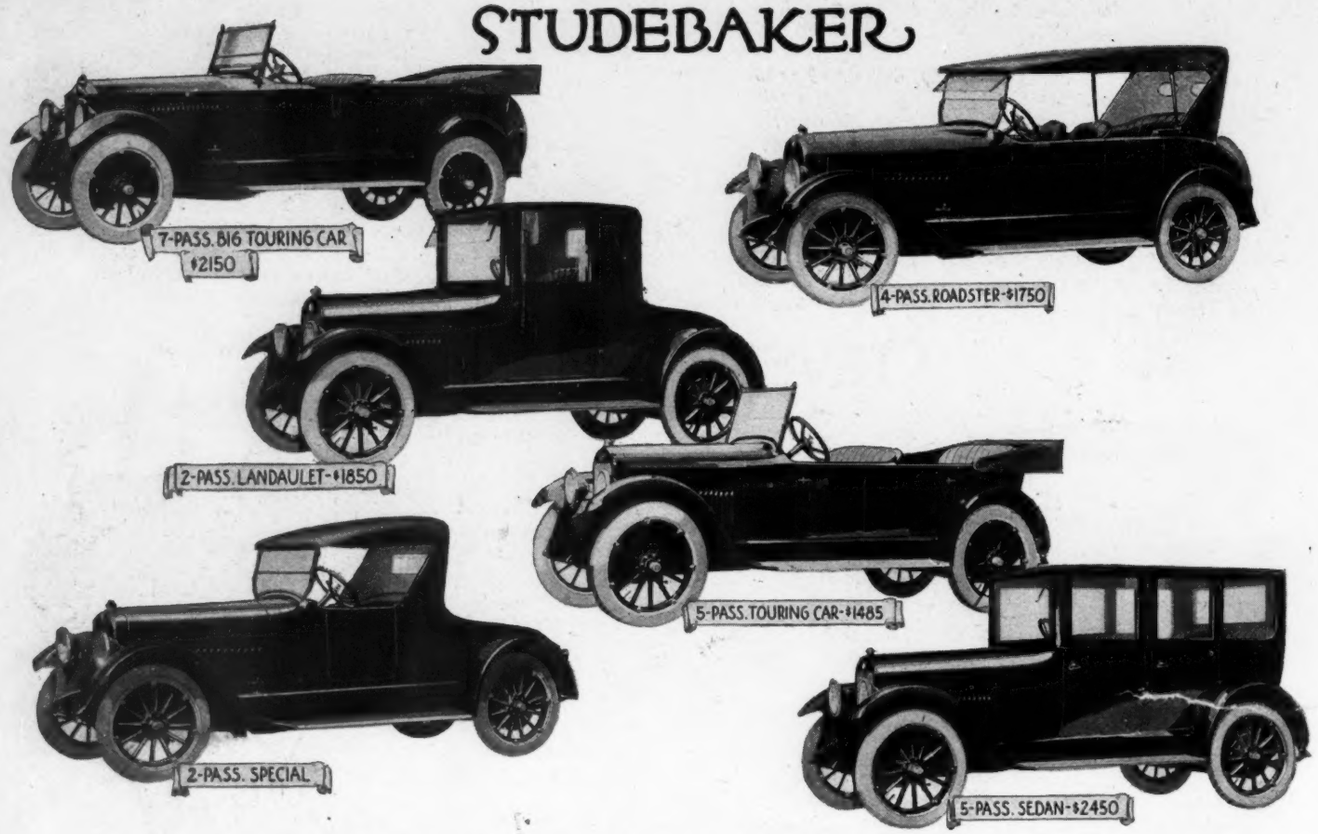
# STUTZ





*THERE is practically no change in the general appearance of the new Stutz models. The chassis, however, has undergone some changes of importance. The size of the crankshaft and the push rods has been increased and a new four part manifold which takes the mixture into each cylinder separately has been adopted. A multiple disk clutch is now used and a flexible band brake of the internal expanding type supplants the old style malleable shoe on the foot brake. The frame is now deeper and is supported on longer springs. A new coupe having racy lines is the newest addition to the body styles offered. The rear arrangement is patterned after the roadster and Bearcat models. Only a limited number of this model will be built.*

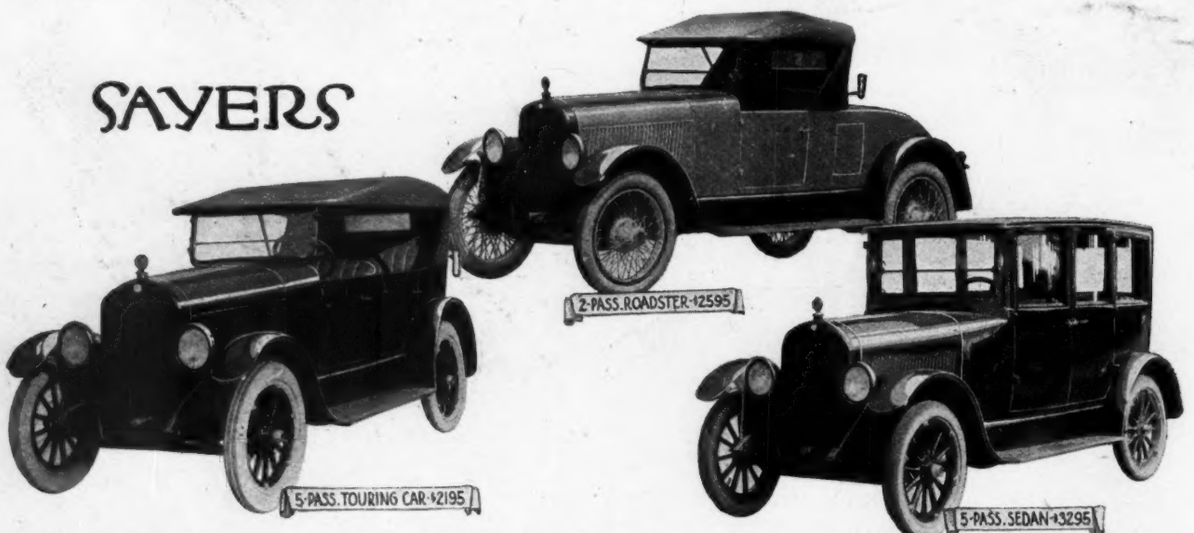
# STUDEBAKER




*BETWEEN the price limits of $1485 and 2750 Studebaker presents nine different models on three chassis, three of the body styles being on the light six chassis of 112-in. wheelbase, five of the bodies on the special six chassis of 119-in. wheelbase and seven-passenger touring body on the large chassis of 126-in. wheelbase. The light six line comprises a touring and sedan of five-passenger capacity and a two-passenger roadster. The special six includes a five-passenger touring and sedan, a four-passenger coupe and a two-pasesnger roadster.*

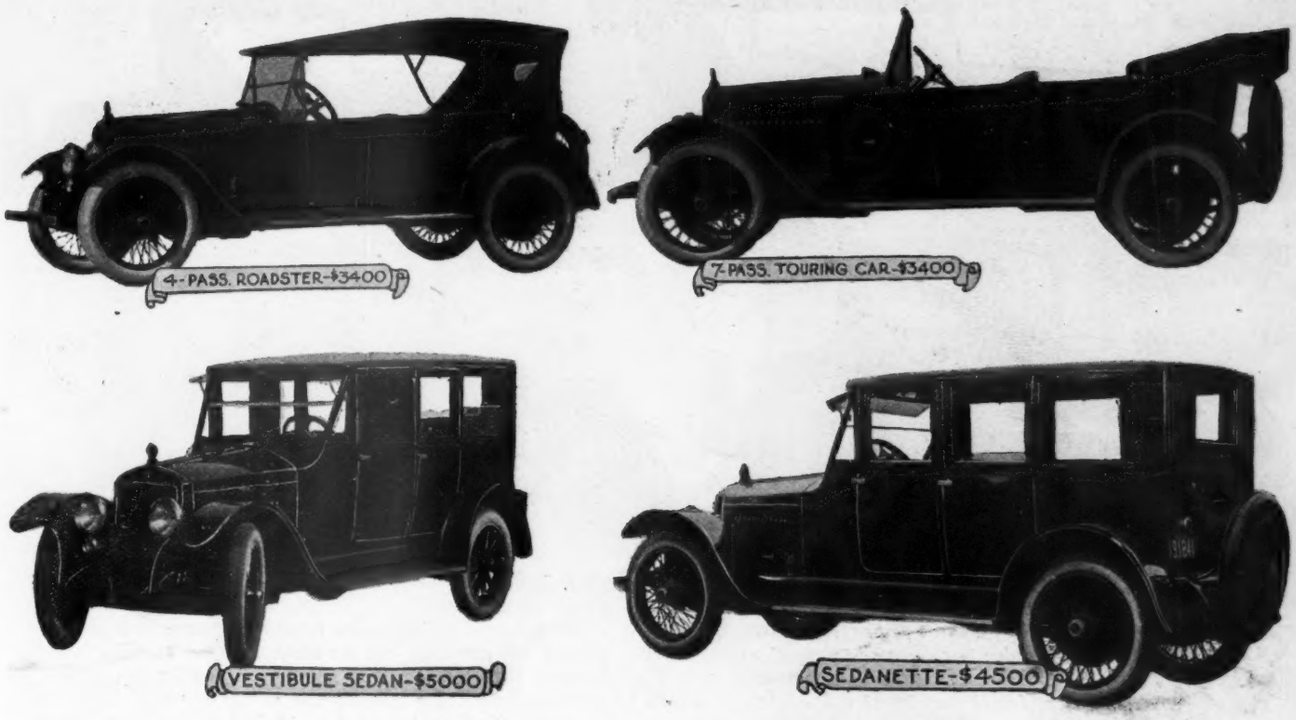
*The chassis of the light six is powered with 3⅛ by 4½ in. engine having a modified L-head engine in which the valves are set an angle of 20 degrees with the cylinder bore. The power plant of the special six measures 3½ by 5-in. and is of the L-head type. In the big six an engine of 3⅞ by 5-in. is used. The light six uses a disk clutch and the other two models an aluminum cone clutch. Studebaker's three cars are different from the majority in respect to the transmission which is located in intermediate or amidships position.*

# SAYERS




*THE Sayers models for 1921 include the touring Derby roadster and Glendale sedan. Some of the features of the Avondale are built-in tool compartment in front door; auxiliary seat in rear; motometer and power tire pump, and curtains that open with doors. Features of the roadster include cord tires and wire wheels; bumper in front, snubbers, Spanish leather upholstery; large compartment in rear with access from back. Smaller compartments with doors at sides; tool compartment built in front door. The Glendale sedan features removable partition above front seat converting car from sedan to limousine; floor heater; parking lights; two auxiliary seats folding into rear of front seat; clock on dash; motometer and power tire pump.*

# STANDARD

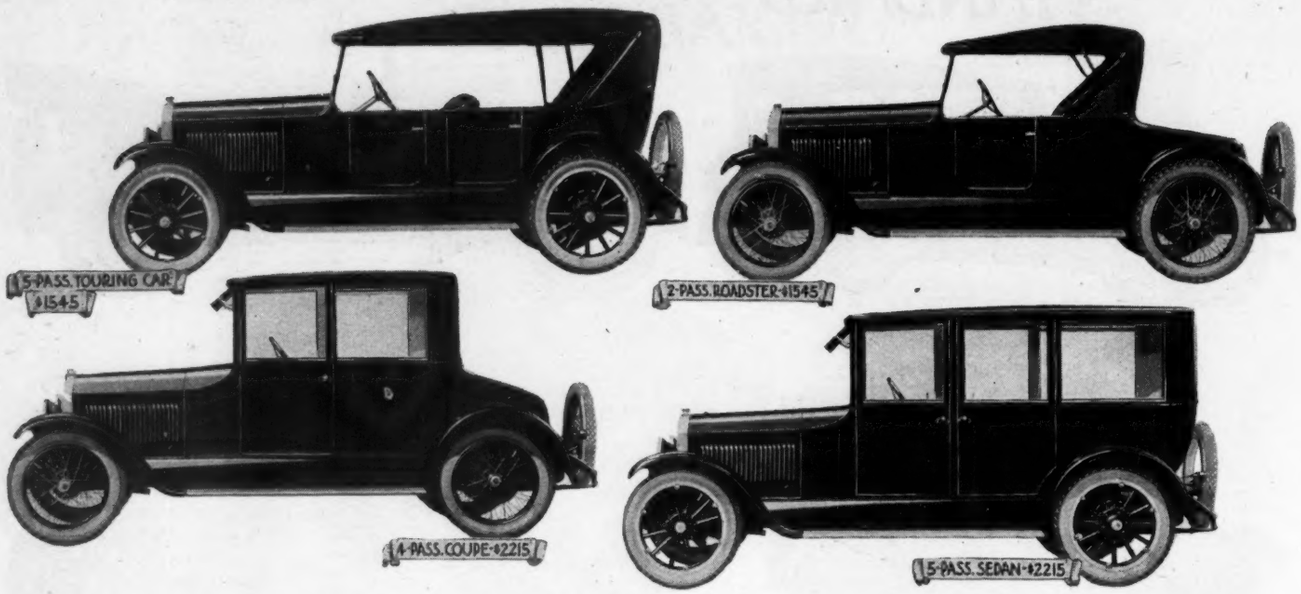



*THE Standard Eight is offered in four body styles, a four-passenger roadster, seven-passenger touring car, four-passenger coupe and seven-passenger sedan. The chassis is fitted with an eight-cylinder engine with a bore and stroke of 3¼ by 5 in. Other units consist of a Borg & Beck clutch, Grant-Lees transmission, Arvac universals, Timken Axles, Gemmer steering gear, Westinghouse electric system, and Zenith carbureter. The wheelbase is 127 in.*

# SAXON

*THE new Saxon-Duplex appears as quite an improvement over the first design presented a year ago. The rigid frame and running board construction is retained, and the wheelbase of 112 in. is unchanged. The spring suspension is semi-elliptic for the front, and cross cantilever type for the rear. The details of the frame parts have been refined somewhat, and appear even more rugged than when the car was presented a year ago. The engine is a four-cylinder block casting, 3⅜ bore by 5 in. stroke. The valves are overhead, and one of the main features is that of being able to adjust the mechanism while running. The manifolds are double, with a hot spot through which the intake gasses pass. The carbureter is of Stromberg make, fed by vacuum feed from a gasoline tank on the rear of the frame. The rear axle is of the semi-floating type, and the drive and torque is absorbed through a torque arm with a ball joint at the front end. The clutch is of the multiple disc type. Transmission is a Covert Standard, and starting, lighting and ignition systems made by Wagner.*

# SCRIPPS-BOOTH




*THE Scripps-Booth line for 1921 consists of four body styles mounted on a single chassis. These are a four-passenger touring car, a three-passenger roadster, five-passenger four-door sedan and a four-passenger coupe. They are Fisher built.*

*An innovation found on the closed models is a rain vision sector that serves three functions instead of one. This section is constructed of steel, highly enameled. The glass of the windshield seen against the dark under surface of this adjustable visor reflects the road in the rear. This section thus serves as a rain visor, a sun shade and a rear view mirror.*

*The outstanding innovation upon the open models is the method of handling the curtains. These curtains are mounted on steel frames in such a manner that they swing open with the doors. When not in use they are carried in a metal lined compartment in the back of the front seat. As they need never be taken from their frames, their surfaces can be kept free from wrinkles and their transparent sections, uncracked.*

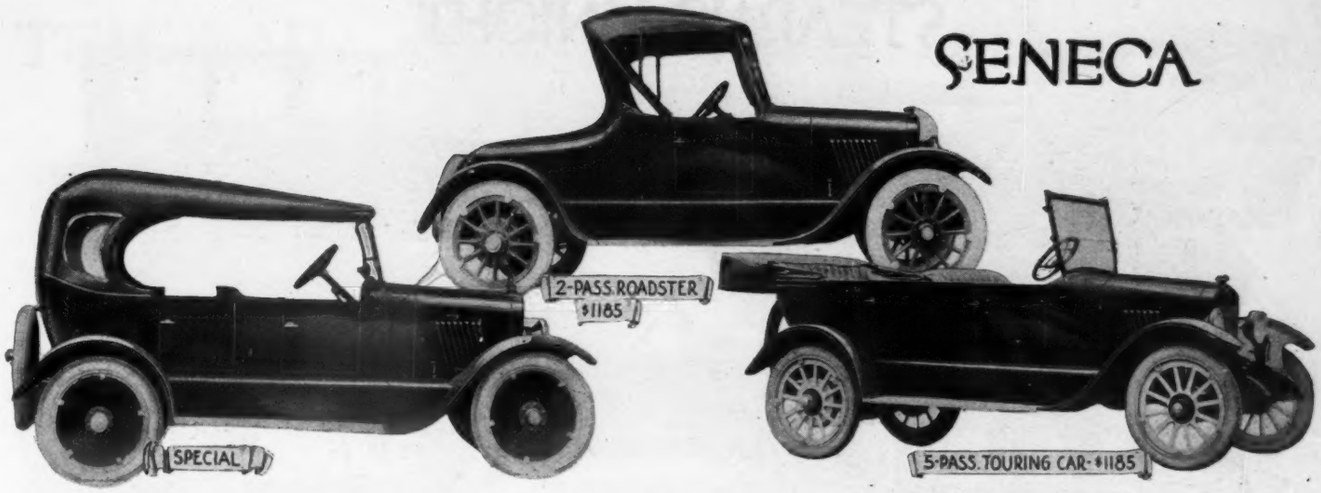
# STANLEY

*THE new Stanley will be exhibited at the National Automobile Shows this year, and at the principal local shows. Many refinements in chassis design and general fitness are incorporated, as well as many improved details of line and finish in body design. They emphasize the Stanley's characteristic ability to deliver maximum motoring satisfaction and comfort in transportation.*

*An interesting feature is the improved boiler of greater efficiency, which is made proof against rust and chemical action, and is easily cleaned out and effectively repaired. The stored steam in the boiler enables the operator to control the car by one throttle. The value of this stored power is increased in the new Stanley by a more efficient burner which gives the boiler a higher generating rate; by an improved superheater which imparts greater power and activity to the steam after leaving the boiler; and by a refinement in engine valves which permits a given amount of steam to do more work.*

*The problem of using low grade fuel has long been admirably met by the Stanley, whose burner takes kerosene and consumes it by sustained combustion instead of intermittent explosive combustion. The burner is a self-contained unit, not depending on any extraneous device, but vaporizing the fuel by its own heat.*

# SENECA

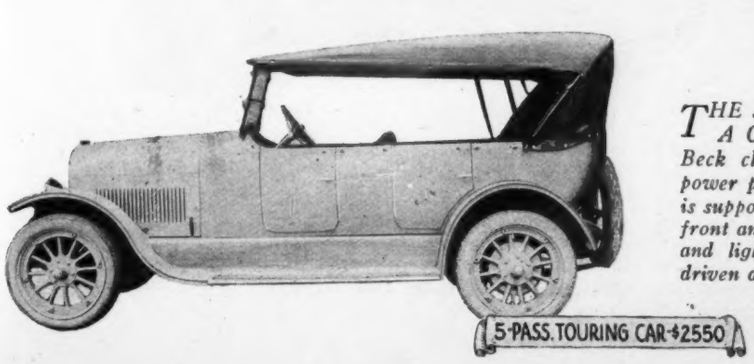



*IN addition to model "L" for 1921, Seneca has created the Model "O" roadster. The new type of model XA-122 Connecticut ignition switch has replaced the oblong type formerly used. The windshield has been revamped in order to form a more graceful line with the body which has been reshaped to create a more pleasing appearance. In place of the plain mat a moulded rubber mat with the Seneca trade mark heavily imbedded in the center is now used. The speedometer is now being driven from the drive shaft. Replacing the vibrating horn is the Klaxon motor driven horn. Instead of the tufted type of upholstery the French plain is now being used entirely and cast aluminum frame with bevel plate glass is used in the rear curtain.*

# SKELTON

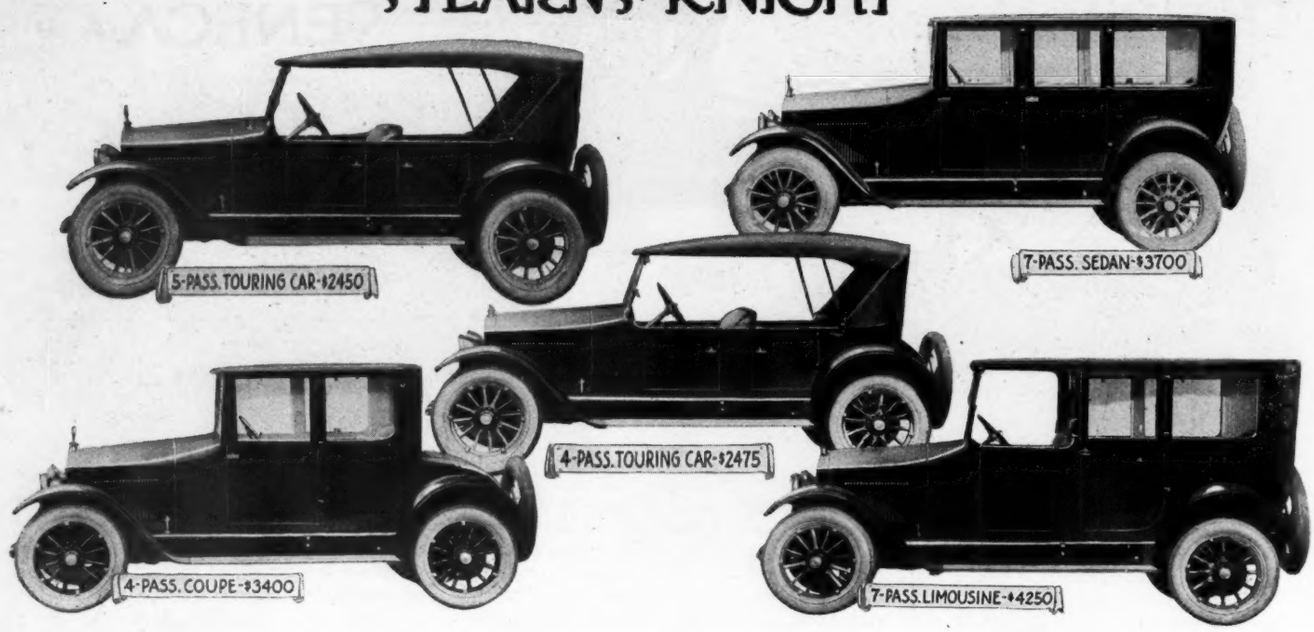
*THE Skelton line for 1921 comprises a two-passenger roadster and five-passenger touring. Standard finish of the car is black and a set of five wire wheels is optional. The car has a 112-in. wheelbase and is fitted with a four-cylinder, 3½ by 5 in. Lycoming engine. The electric system is Westinghouse. Equipment includes speedometer, ammeter, oil gage, cowl light, etc., mounted on a walnut board. There is a large storage compartment under the rear deck of the roadster.*

# SEVERIN




*THE Severin is an assembled job of well known units. A Continental 9 N 3½ by 5¼ in engine, a Borg & Beck clutch and a Muncie transmission form the unit power plant. The chassis has a wheelbase of 122 in. and is supported on semi-elliptic springs 39 in. in length for the front and 54 in. for the rear. A two unit Wagner starting and lighting system is employed with an independently driven distributer. A bevel edge characterizes the body and the upholstering is in genuine leather. The car is equipped with 32 by 4 tires and has a gear ratio of 4½ to 1.*

# STEARNS-KNIGHT



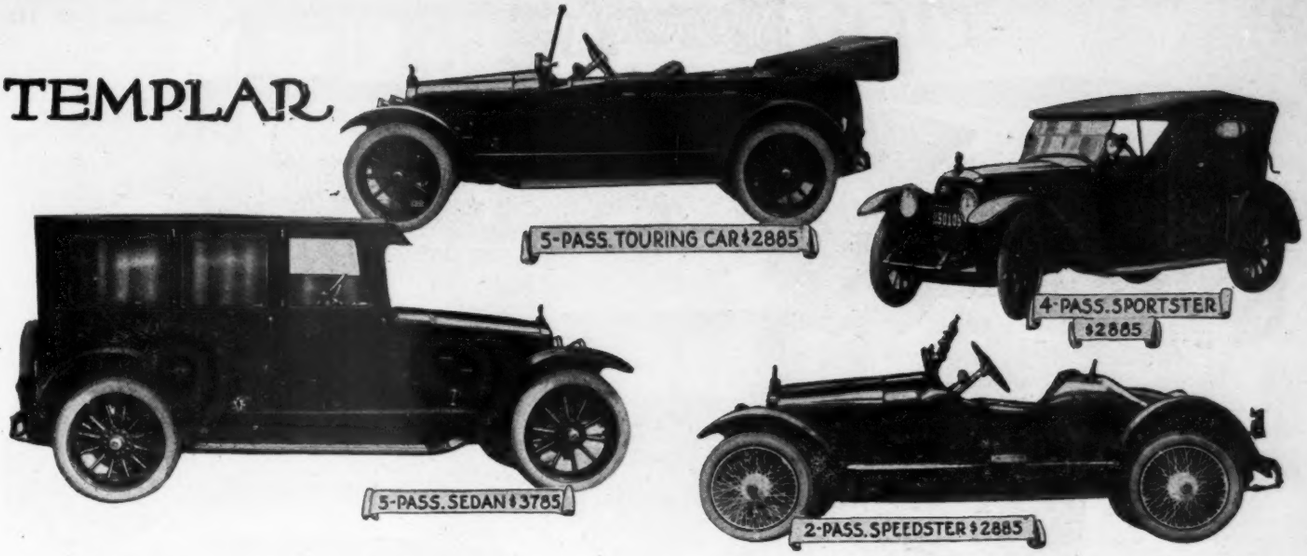

*THERE is no change in the Stearns line for 1921. The company will continue to manufacture but one chassis, a 125-in. wheelbase job in which is mounted a four-cylinder sleeve valve engine of the same general design which has been used previously. Aluminum is used in place of iron, in some instances, which has lightened up the product so that the present Stearns is one of the lightest cars the company has made. The rear wheels contains both brakes, a transmission speedometer drive is supplied and Westinghouse electrical equipment is used with Atwater-Kent ignition. The general outline of radiator and hood conforms to modern car design.*

*The same chassis with only a difference in spring capacity, mounts a three, four, five and seven-passenger open body and coupe, seven-passenger sedan and limousine types of closed bodies.*

# STEPHENS

*STEPHENS has five body styles mounted on the model 90 chassis which has a wheelbase of 192 in. The line includes a two-passenger roadster, four and six-passenger touring, and four and six-passenger sedan. The standard color is blue excepting the roadster which is khaki. Red is an optional color. Chassis changes include the adoption of a new Timken axle and a pressure feed lubricating system for the overhead valve rockers which eliminate all chances of squeaking. Tires are 33 by 4½ in. Other units consist of Borg & Beck clutch, Mechanics gearset, universal joint, Auto-Lite starting and lighting system, Connecticut ignition, and natural finish wood wheels. Wire wheels are optional. One of the things that has featured the Stephens engine is the valve adjustment whereby it is possible to adjust the valve clearance while the engine is running.*

# TEMPLAR

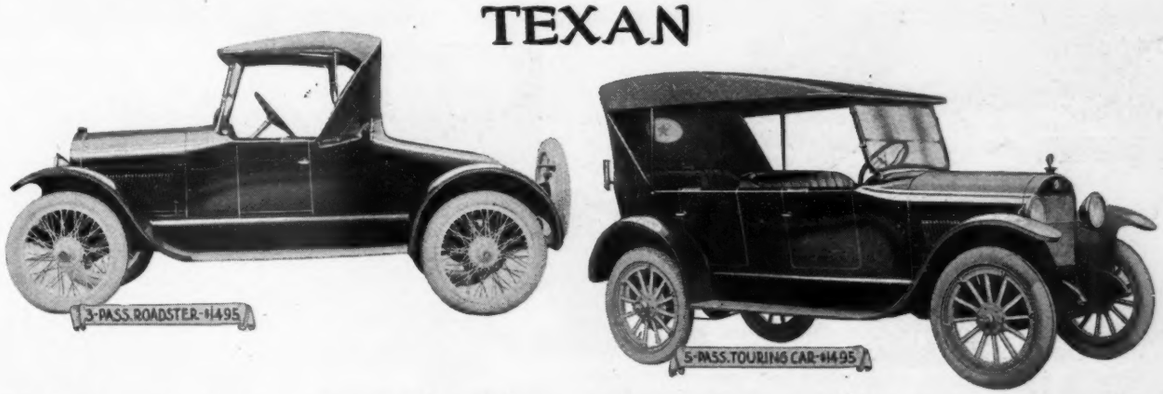



*THE Templar has added the Alemite lubrication system and made some refinements of a minor nature in the chassis for 1921. There is a new coupe with a capacity of three passengers that replaces the former four-passenger model. The size of the body is the same and the change is brought about by a rearrangement of the seats. Externally the coupe looks very much like the previous models.*

# TULSA

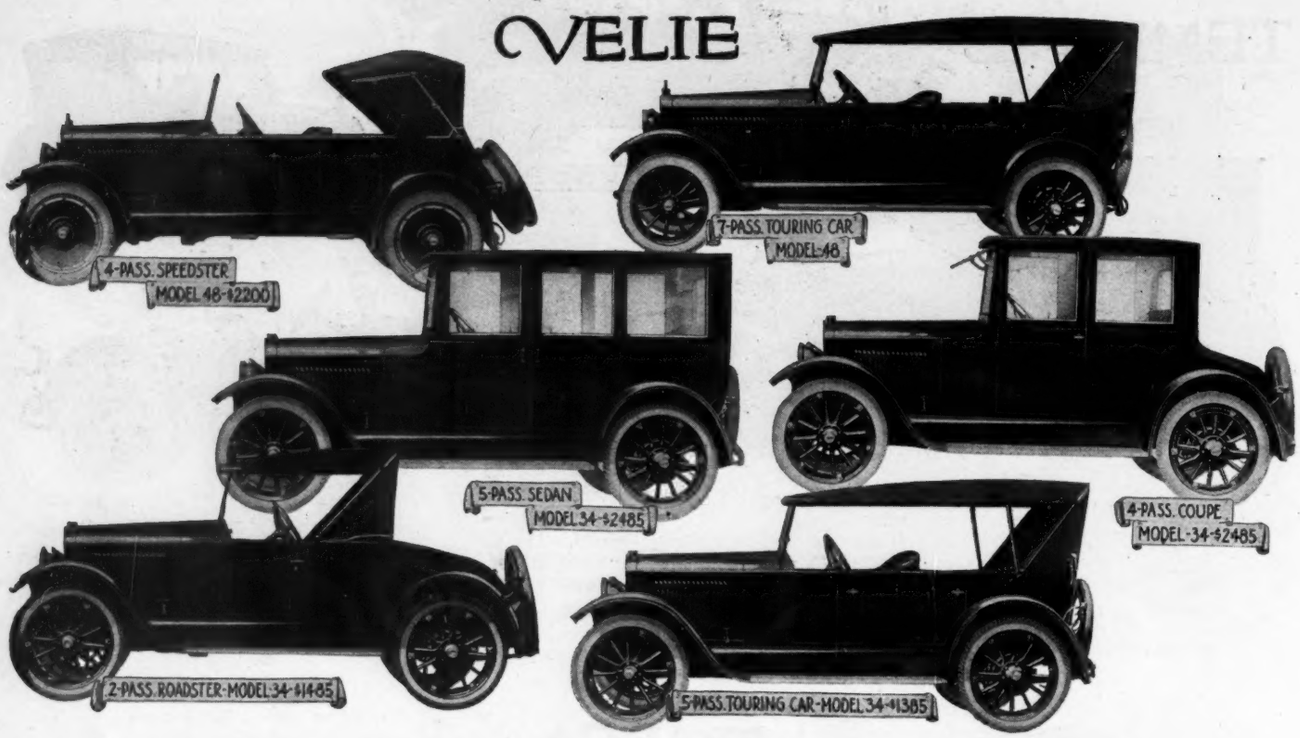
*THREE models constitute the Tulsa line for 1921, namely,—model roadster, touring car and special oil field roadster. These cars have a wheelbase of 117½-in., are powered with a Herschell-Spillman engine 3½ by 5 and conventional throughout in that they use a Borg & Beck Clutch, Muncie gearset and Salisbury rear axle. Dyneto motor and generator, Exide battery and Connecticut ignition switch are used. The special oil field roadster is built for use in the oil fields to carry tools and equipment for oil wells.*

# TEXAN



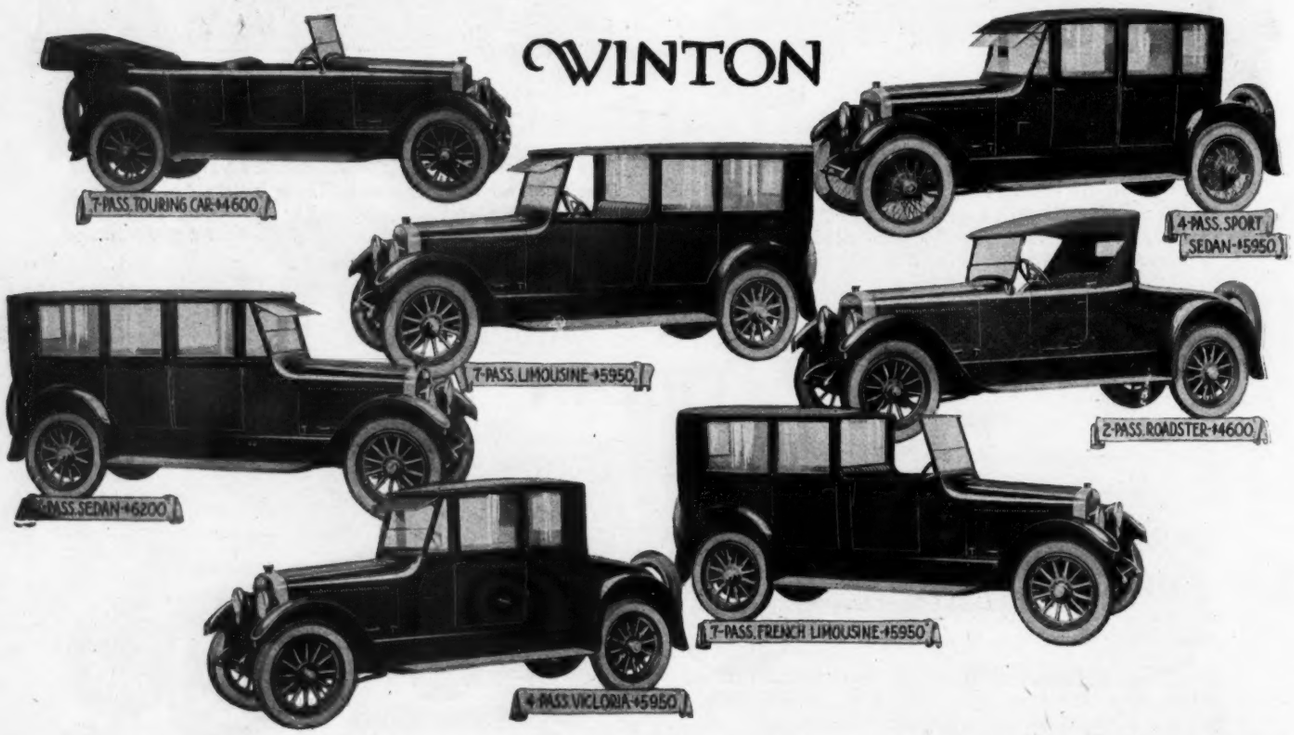

*THIS is 115 in. wheelbase car fitted with Lycoming engine with four cylinders 3½ by 5 in. Tires are 33 by 4 in. and the important units consist of a Borg & Beck clutch, Grant-Lees transmission, Detroit universal, Peru rear axle, Gas steering gear, Bijur starting and lighting system.*

# VELIE




*VELIE is presenting a new model seven-passenger touring car mounted on the model 48 chassis. The two has been changed, bringing the center of the forward brake rod eyes to a point which is neutral to the movement of the rear axle. All the spring bolts and steering connections are lubricated with an oil gun. The tire carrier at the rear is made of steel, the arms being drop forgings and the frame an angle section. Each rim is held in place by the separate clamping screw and the two screws are locked together to prevent loosening and theft. The wire harness has been simplified making the various connections more accessible.*

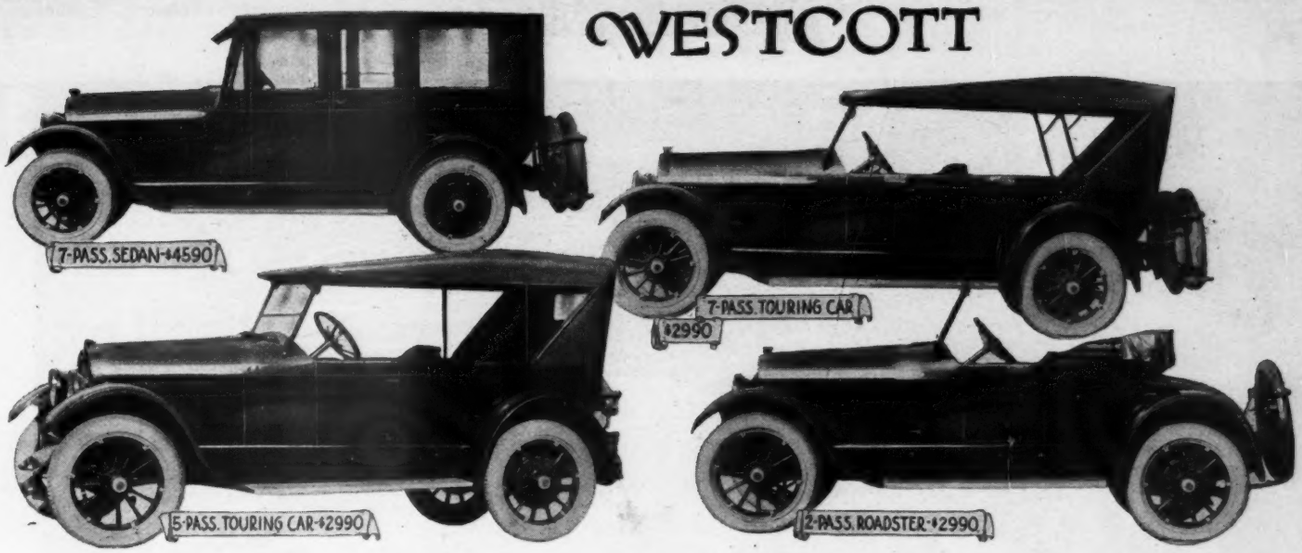
# WINTON




*SEVERAL changes are noted in the construction of the 1921 Winton chassis. The brake operating mechanism chassis sizes will be continued with minor improvements incorporated. The new model is finished in maroon and is provided with three lockers in the back of the front seat, covered with doors. The seat panel is finished in mahogany and in this respect conforms to the finish of the instrument board. The rear axle is larger than in the other Velies and has a special gear ratio.*

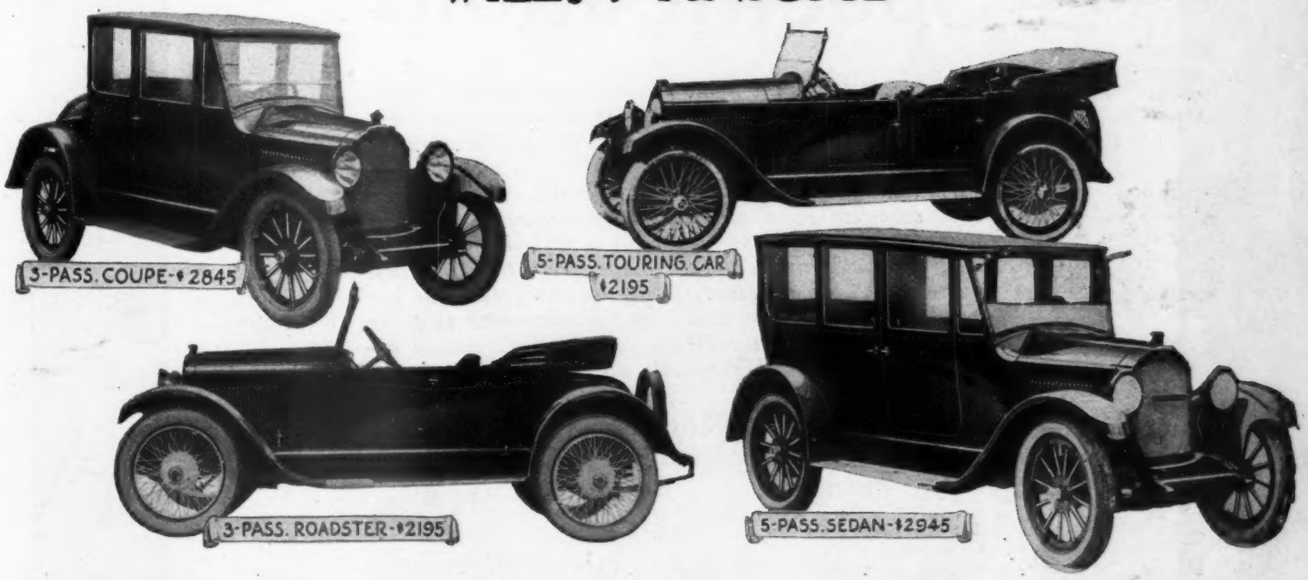
*The line of bodies includes a five-passenger touring, 6-passenger sedan, speedster and 7-passenger touring mounted on the larger chassis and a five-passenger touring, five-passenger sedan, coupe and roadster mounted on the smaller chassis.*

# WESTCOTT




*TWO chassis models continue in the Westcott line as before, both powered with Continental engines. On the lighter six chassis is displayed for the first time this year at the shows a new four-passenger coupe body model, custom built having an aluminum body. Other body styles mounted on the lighter six chassis are a touring car five-passenger and sedan five-passenger. The larger chassis includes a full line of body styles in seven-passenger types. All Westcott cars are finished this year in two-tone colors and in addition a belt line is continued from the front to the rear. The two models of the Westcott line are no different in quality, both cars being listed at the same price which is different from the practice followed in the case where a smaller and larger car are listed at different prices.*

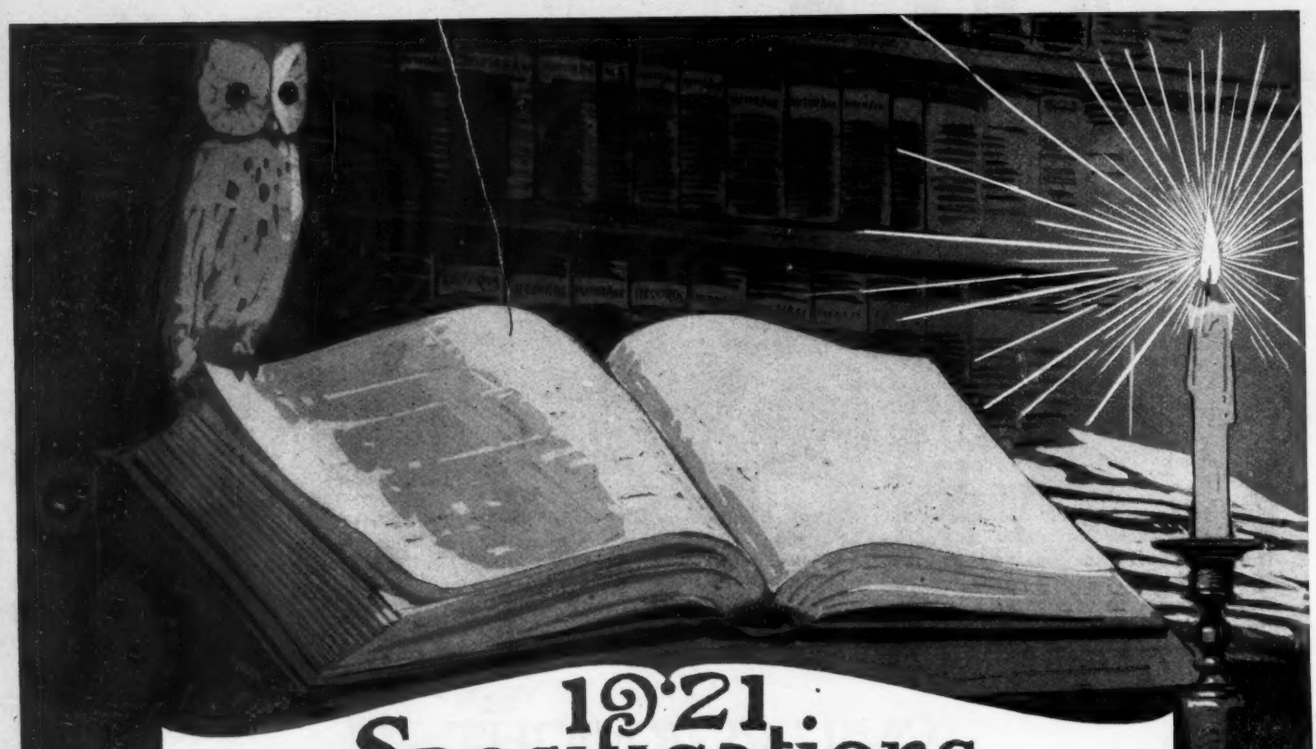
# WILLYS-KNIGHT




*BASICALLY, the Willys-Knight remains the same but minor improvements have been incorporated. The Knight engine uses aluminum pistons and the timing gears are driven by a silent chain running in oil. The rear springs are of the cantilever type and the front springs semi-elliptic. The body types including a five-passenger touring, five-passenger sedan, three-passenger roadster and three-passenger coupe retain the same characteristic body lines.*

# WASP

*THE standard Wasp 132-in. chassis which includes a four cylinder Wisconsin engine 4¾ by 5½-in. and transmission with four speeds forward, direct drive in fourth, will be continued this year. Custom built coachwork with interior panels in natural wood with spar varnish is offered and the four bow Rickshaw Victoria top hand made drive and bullet lights in windscreen glass are now standard. The upholstery is detachable and the seats are placed very low. The tires are 33 by 5 cords and two extra tires and wheels are carried at the rear.*



# 1921 Specifications

*IN keeping with the name of this issue "Annual Shows And Specifications Issue" Motor Age presents herewith thirty-nine pages containing the specifications of the American cars, trucks, tractors, electric systems, farm-lighting systems and motorcycles. These have been compiled from the latest data obtainable from the manufacturers and are as correct as it is humanly possible to make them. Motor Age feels that the vast amount of work necessary to get these together for our readers is more than offset by the assurance that the readers will derive therefrom valuable information obtainable from no other reliable source.*

CARS—Pages 78 to 81
111 *different makers*—124 *different models.*

MOTORCYCLES—Page 80
*7 different makers*—18 *different models*

ELECTRICAL EQUIPMENT—Pages 82 to 85

TRUCKS—Pages 86 to 105
176 *different makers*—527 *different models*

TRACTORS—Pages 106 to 110
71 *different makers*—104 *different models*

FARM—LIGHTING—Page 112

# Buyers' Guide *to* 1921 Cars

*MOTOR AGE Presents Herewith the Current Price, Number of Cylinders, N. A. C. C. Horsepower Rating, Wheelbase and Tire Size of the Car Models Made by American Manufacturers. The Prices Given are the Latest List Prices But are Subject to Change. Illustrations of the Bodies Listed Herewith are to Be Found in Motor Age's Eighteenth Annual Passenger Car Show—*

*Beginning on Page 25 of This Issue*

## Seven Passenger Touring Cars

| Name and Model | Price | Cyl. | H. P. | W. B. | Tires |
|---|---|---|---|---|---|
| American—C | $2475 | 6 | 25.35 | 127 | 32 x 4 |
| Anderson—S-40 | .... | 6 | 25.35 | 120 | 33 x 4 |
| Apperson—821 | 3500 | 8 | 33.80 | 130 | 34 x 4½ |
| Bour-Davis—21S | 2585 | 6 | 29.40 | 126 | 33 x 4½ |
| Buick | 2065 | 6 | 27.30 | 124 | 34 x 4½ |
| Cadillac—59 | 3940 | 8 | 31.25 | 132 | 35 x 5 |
| Case—V | 2650 | 6 | 29.40 | 126 | 34 x 4½ |
| Chandler | .... | 6 | 29.40 | 123 | 34 x 4½ |
| Cole—870 | .... | 8 | 39.20 | 127 | 33 x 5 |
| Crawford—6-40 | 3000 | 6 | 29.40 | 122½ | 32 x 4 |
| Cunningham—V4 | .... | 8 | 45.00 | 142 | 35 x 5 |
| Daniels—D19 | 5350 | 8 | 39.20 | 133¼ | 34 x |
| Dorris—680 | 4785 | 6 | 38.40 | 132 | 33 x 5 |
| Haynes—47 | 2935 | 6 | 29.40 | 132 | 34 x 4½ |
| Holmes—4 | 3350 | 6 | 29.40 | 126 | 34 x 4½ |
| Hudson—O | 2400 | 6 | 29.40 | 126 | 34 x 4½ |
| Kenworthy—8-90 | .... | 8 | 28.80 | 130 | 32 x 4½ |
| Kissel | 3475 | 6 | 26.34 | 124 | 32 x 4½ |
| Kline Kar—655-R | 2290 | 6 | 25.35 | 121 | 33 x 4 |
| La Fayette—134 | 5625 | 8 | 31.25 | 132 | 33 x 5 |
| Lexington—T | 4250 | 6 | 25.35 | 128 | 32 x 4½ |
| Lincoln | 4600 | 8 | 36.45 | 130 | 33 x 5 |
| Marmon—34 | 5000 | 6 | 33.75 | 136 | 32 x 4½ |
| McFarlan—1921 | 6300 | 6 | 48.60 | 140 | 33 x 5 |
| Mitchell—F42 | .... | 6 | 29.40 | 127 | 34 x 4½ |
| Nash—681 | .... | 6 | 25.35 | 127 | 34 x 4½ |
| National Sextette | 3750 | 6 | 29.40 | 130 | 32 x 4½ |
| Packard Twin Six | 6000 | 12 | 43.20 | 136 | 35 x 5 |
| Paige—6-66 | 2795 | 6 | 33.75 | 131 | 33 x 4½ |
| Paterson—6-50 | 1825 | 6 | 25.35 | 120 | 33 x 4 |
| Peerless—56S7 | 3230 | 8 | 33.80 | 125 | 34 x 4½ |
| Pierce Arrow | 7500 | 6 | 38.40 | 138 | 35 x 5 |
| Porter—46 | .... | 4 | ..... | 142 | 35 x 5 |
| R. & V. Knight—J | 3350 | 6 | 29.40 | 127 | 32 x 4½ |
| Stevens Duryea—E | 8500 | 4 | 46.20 | 138 | 35 x 5 |
| Stearns Knight—SKL4 | 2675 | 4 | 22.50 | 125 | 34 x 4½ |
| Winton—25 | 4600 | 6 | 33.75 | 132 | 35 x 5 |

## Six Passenger Touring Cars

| | | | | | |
|---|---|---|---|---|---|
| Cunningham | .... | 8 | 45.00 | 142 | 35 x 5 |
| Ferris | 3350 | 6 | 29.40 | 130 | 32 x 4½ |
| Pierce Arrow | 7500 | 6 | 38.40 | 138 | 35 x 5 |
| Porter | .... | 4 | ..... | 142 | 35 x 5 |
| Stephens | 2400 | 6 | 25.35 | 122 | 33 x 4½ |

## Five Passenger Touring Cars

| | | | | | |
|---|---|---|---|---|---|
| Ace—G | .... | 6 | 25.35 | 123 | 32 x 4 |
| Allen—43 | 1595 | 4 | 19.60 | 110 | 32 x 4 |
| American—C | 2395 | 6 | 25.35 | 120 | 32 x 4 |
| Anderson—S40 | .... | 6 | 25.35 | 120 | 33 x 4 |
| Auburn—6-39 | .... | 6 | 25.35 | 120 | 33 x 4 |
| Brewster—91 | 9000 | 4 | 25.60 | 125 | 32 x 4½ |
| Briscoe—434 | 1285 | 4 | 18.23 | 109 | 31 x 4 |
| Buick | 1795 | 6 | 27.30 | 118 | 33 x 4 |
| Champion—Special | 1595 | 4 | 19.60 | 118 | 32 x 4 |
| Champion—Tourist | 1350 | 4 | 19.60 | 116 | 32 x 3½ |

## Five Passenger Touring Cars—Continued

| Name and Model | Price | Cyl. | H. P. | W. B. | Tires |
|---|---|---|---|---|---|
| Chevrolet—490 | 820 | 4 | 21.76 | 102 | 30 x 3½ |
| Chevrolet—F.B.50 | 1345 | 4 | 21.76 | 110 | 33 x 4 |
| Cleveland—40 | 1435 | 6 | 21.60 | 112 | 32 x 4 |
| Columbia Six | 1795 | 6 | 25.35 | 115 | 32 x 4 |
| Commonwealth—44 | 1595 | 4 | 19.60 | 117 | 32 x 4 |
| Davis—51 | 2085 | 6 | 25.35 | 120 | 33 x 4 |
| Dodge Brothers | 1285 | 4 | 24.03 | 114 | 32 x 3½ |
| Dort—17A | .... | 4 | 19.60 | 108 | 31 x 4 |
| Dixie Flyer—HS70 | 1595 | 4 | 19.60 | 112 | 32 x 4 |
| Elgin—H | 1775 | 6 | 23.44 | ... | 33 x 4 |
| Essex—A | .... | 4 | 18.23 | 108½ | 32 x 4 |
| Friend Four | 1585 | 4 | 16.90 | 112 | 32 x 3½ |
| Franklin—9B | 2600 | 6 | 25.35 | 115 | 32 x 4 |
| Gardner—G | 1195 | 4 | 19.60 | 112 | 32 x 3½ |
| Globe—B10 | .... | 4 | 18.23 | 115 | 32 x 4 |
| Grant—HX | 1550 | 6 | 22.52 | 116 | 32 x 4 |
| Hanson—60 | 2365 | 6 | 25.35 | 121 | 32 x 4 |
| Halladay—21 | 2285 | 6 | 23.44 | 116 | 33 x 4 |
| Harroun—AA2 | 1195 | 4 | 16.90 | 106 | 30 x 3½ |
| Hatfield—A42 | 1695 | 4 | 19.60 | 115 | 32 x 4 |
| Hupmobile—R | 1685 | 4 | 16.90 | 112 | 32 x 4 |
| Jackson—638 | 1950 | 6 | 25.35 | 121 | 32 x 4½ |
| Kline Kar—6-55-K | 2290 | 6 | 25.35 | 121 | 33 x 4 |
| Lexington—S | 2285 | 6 | 25.35 | 122 | 32 x 4 |
| Liberty—10c | 1795 | 6 | 23.44 | 117 | 32 x 4 |
| Lorraine—21T | 1665 | 4 | 19.60 | 114 | 32 x 4 |
| Metz—M6 | 1995 | . | ..... | 120 | 32 x 4 |
| Mitchell—F40 | 1750 | 6 | 25.35 | 120 | 33 x 4 |
| Moon—6-48 | 1585 | 6 | 25.35 | 122 | 32 x 4 |
| Nash—681 | .... | 6 | 25.35 | 121 | 33 x 4 |
| Oakland—34c | 1395 | 6 | 18.99 | 115 | 32 x 4 |
| Oldsmobile—43-A | 1445 | 4 | 21.76 | 115 | 32 x 4 |
| Overland—4 | 895 | 4 | 18.23 | 100 | 30 x 3½ |
| Packard—S6 | 2975 | 6 | 27.34 | 116 | 33 x 4½ |
| Paige—6-42 | 1770 | 6 | 25.35 | 119 | 32 x 4 |
| Paterson—650 | 1895 | 6 | 25.35 | 120 | 33 x 4 |
| Piedmont—430 | 1485 | 4 | 19.60 | 116 | 32 x 3½ |
| Piedmont—640 | 1945 | 6 | 25.35 | 122 | 32 x 4 |
| Pan—A | 1500 | 4 | 16.90 | 108 | 33 x 4 |
| Pan American—E6-55 | 2450 | 6 | 25.35 | 121 | 33 x 4 |
| Pilot—6-50 | 2285 | 6 | 25.35 | 126 | 32 x 4 |
| Premocar—6-40 A | 1295 | 6 | 23.44 | 117 | 32 x 3½ |
| Ranger | 1850 | 4 | 18.23 | 116 | 32 x 4 |
| Reo—T6 | 1850 | 6 | 24.39 | 120 | 33 x 4 |
| R. & V. Knight—R | 2150 | 4 | 22.50 | 116 | 32 x 4 |
| Saxon—125 | 1895 | 4 | 18.23 | 112 | 32 x 4 |
| Sayers Six—DP | 2195 | 6 | 25.35 | 118 | 33 x 4 |
| Scripps Booth—B39 | 1545 | 6 | 18.99 | 115 | 32 x 4 |
| Skelton—35 | 1295 | 4 | 19.60 | 112 | 32 x 3½ |
| Stearns Knight | 2450 | 4 | 22.50 | 125 | 34 x 4½ |
| Studebaker—EH | 1750 | 6 | 29.40 | 119 | 32 x 4 |
| Studebaker—EJ | 1485 | 6 | 23.44 | 112 | 32 x 4 |
| Templar—445 | 2885 | 4 | 18.23 | 118 | 32 x 4 |
| Tulsa—E-1-2-3 | 1385 | 4 | 19.60 | 118 | 33 x 4 |
| Velie—34 | 1385 | 6 | 23.44 | 112 | 32 x 3½ |
| Velie—48 | 1885 | 6 | 25.35 | 115 | 32 x 4 |
| Westcott—C38 | 2290 | 6 | 25.35 | 118 | 33 x 4 |
| Willys Knight | 2195 | 4 | 21.03 | 118 | 33 x 4 |

# Buyers' Guide to 1921 Cars—*Continued*

## Four Passenger Touring Cars

| Name and Model | Price | Cyl. | H. P. | W. B. | Tires |
|---|---|---|---|---|---|
| Daniels | 5350 | 8 | 39.20 | 132¼ | 32 x 34 |
| Dorris | 4785 | 6 | 38.40 | 132 | 33 x 5 |
| Hanson | 2465 | 6 | 25.35 | 121 | 32 x 4 |
| H. C. S.—3 | 2975 | 4 | 21.03 | 120 | 32 x 4½ |
| Hudson Six—O | .... | 6 | 29.40 | 125½ | 34 x 4½ |
| Kenworthy—8-90 | .... | 8 | 28.80 | 130 | 32 x 4½ |
| Kline Kar | 2290 | 6 | 25.35 | 121 | 33 x 4 |
| Meteor | 5500 | 4 | 28.90 | 129 | 32 x 4½ |
| National—BB | 3750 | 6 | 29.40 | 130 | 32 x 4½ |
| Pierce-Arrow | 7500 | 6 | 38.40 | 138 | 35 x 5 |
| Roamer—6-54-D | .... | 6 | 29.40 | 130 | 32 x 4¼ |
| Stearns Knight | 2475 | 4 | 22.50 | 125 | 34 x 4½ |
| Stephens—90 | 2400 | 6 | 25.35 | 122 | 33 x 4½ |
| Templar—44-S | 2885 | 4 | 18.23 | 118 | 32 x 4 |
| Winton—25 | 4975 | 6 | 33.75 | 132 | 35 x 5 |
| Wasp—211 | 6500 | 4 | 36.10 | 132 | 33 x 5 |

## Four Passenger Roadsters

| | | | | | |
|---|---|---|---|---|---|
| Apperson—8-21 | 3500 | 8 | 32.80 | 130 | 34 x 4½ |
| Brewster—91 | 7900 | 4 | 25.60 | 125 | 32 x 4½ |
| Case—V | 2650 | 6 | 29.40 | 126 | 34 x 4½ |
| Cunningham—V4 | .... | 8 | 45.00 | 132 | 35 x 5 |
| Franklin—9B | 2500 | 6 | 33.75 | 115 | 32 x 4 |
| Holmes—4 | 3350 | 6 | 29.40 | 126 | 34 x 4½ |
| Marmon—34 | 5000 | 6 | 33.75 | 136 | 32 x 4½-5 |
| Oldsmobile—43A | 1445 | 4 | 21.76 | 115 | 32 x 4 |
| Peerless—56S7 | 3200 | 8 | 33.80 | 125 | 34 x 4½ |
| Porter—46 | .... | 4 | ..... | 142 | 35 x 5 |
| Roamer—6-54D | .... | 6 | 29.40 | 130 | 32 x 4½ |

## Three Passenger Roadsters

| | | | | | |
|---|---|---|---|---|---|
| Allen—43 | 1595 | 4 | 19.60 | 110 | 32 x 4 |
| Bour Davis—21-S | 2585 | 6 | 29.40 | 126 | 33 x 4½ |
| Buick | 1795 | 6 | 27.34 | 118 | 33 x 4 |
| Cleveland—40 | 1435 | 6 | 21.60 | 112 | 32 x 4 |
| Daniel—D19 | 5350 | 8 | 39.20 | 132 | 34 x 4½ |
| Davis—51 | 2125 | 6 | 25.35 | 120 | 33 x 4 |
| Friend Four | 1585 | 4 | 16.90 | 112 | 32 x 3½ |
| Gardner—G | 1195 | 4 | 19.60 | 112 | 32 x 3½ |
| Kline Kar—6-55-R | 2290 | 6 | 25.35 | 121 | 33 x 4 |
| Lincoln | 4600 | 8 | 36.45 | 130 | 33 x 5 |
| Mitchell—F40 | 1750 | 6 | 25.35 | 120 | 33 x 4 |
| Paige—6-42 | 1770 | 6 | 25.35 | 119 | 32 x 4 |
| Reo—T-6 | 1850 | 6 | 24.39 | 120 | 33 x 4 |
| Sayers Six—D.P | 2595 | 6 | 25.35 | 118 | 33 x 4 |
| Scripps Booth—B-39 | 1545 | 6 | 17.79 | 115 | 32 x 4 |
| Seneca | 1185 | 4 | 15.65 | 108 | 30 x 3½ |
| Stearns Knight—SK14 | 2550 | 4 | 22.50 | 125 | 34 x 4½ |
| Willys Knight—20 | 2195 | 4 | 21.03 | 118 | 33 x 4 |

## Two Passenger Roadsters

| | | | | | |
|---|---|---|---|---|---|
| Ace—G | .... | 6 | 25.35 | 123 | 32 x 4 |
| America—C | 2395 | 6 | 25.35 | 127 | 32 x 4 |
| Anderson—40 | .... | 6 | 25.35 | 120 | 33 x 4 |
| Auburn—6-39 | .... | 6 | 25.35 | 120 | 33 x 4 |
| Briscoe—4-34 | 1285 | 4 | 18.23 | 109 | 31 x 4 |
| Cadillac—59 | 3790 | 8 | 31.25 | 125 | 35 x 5 |
| Chandler | .... | 6 | 29.40 | 123 | 33 x 4 |
| Chevrolet—490 | 795 | 4 | 21.76 | 102 | 30 x 3½ |
| Cole—870 | .... | 8 | 39.20 | 127 | 33 x 5 |
| Columbia | 1945 | 6 | 25.35 | 115 | 32 x 4 |
| Crawford—21-6-40 | 3000 | 6 | 29.40 | 122½ | 32 x 4 |
| Dodge | 1235 | 4 | 24.03 | 114 | 32 x 3½ |
| Dort | .... | 4 | 19.60 | 108 | 31 x 4 |
| Dixie Flyer—HS70 | 1595 | 4 | 19.60 | 112 | 32 x 4 |
| Essex—A | .... | 4 | 18.23 | 108½ | 32 x 4 |
| Ferris | 3350 | 6 | 29.40 | 130 | 32 x 4½ |
| Globe—B10 | .... | 4 | 18.23 | 115 | 32 x 4 |
| Grant—HX | 1550 | 6 | ..... | 116 | 32 x 4 |
| Hanson—60 | 2365 | 6 | 25.35 | 121 | 32 x 4 |
| Hayne—47 | 3500 | 6 | 29.40 | 132 | 34 x 4½ |
| H. C. S.—3 | 2925 | 4 | 21.03 | 120 | 32 x 4½ |
| Hupmobile—R | 1685 | 4 | 16.90 | 112 | 32 x 4 |
| Kissel Kar—C | 3475 | 6 | 26.34 | 124 | 32 x 4½ |
| Kline Kar—6-55-K | 2290 | 6 | 25.35 | 121 | 33 x 4 |
| Liberty | 1795 | 6 | 23.44 | 117 | 32 x 4 |
| Lorraine—21-T | 1665 | 4 | 19.60 | 114 | 32 x 4 |
| Meteor—R & RR | 5500 | 4 | 28.90 | 129 | 32 x 4½ |
| Metz—1921 | 1995 | 6 | 23.44 | 120 | 32 x 4 |

## Two Passenger Roadster (Continued)

| Name and Model | Price | Cyl. | H. P. | W. B. | Tires |
|---|---|---|---|---|---|
| Moone—6-48-21 | 2085 | 6 | 25.35 | 122 | 32 x 4 |
| Nash—681 | .... | 6 | 25.35 | 121 | 33 x 4 |
| National—BB | 3750 | 6 | 29.40 | 130 | 32 x 4½ |
| Oakland—134C | 1395 | 6 | 18.99 | 115 | 32 x 4 |
| Overland—4 | 895 | 4 | 18.23 | 100 | 30 x 3½ |
| Packard—SS | 2975 | 6 | 27.34 | 116 | 33 x 4 |
| Packard—TS | 6000 | 12 | 43.20 | 136 | 35 x 5½ |
| Paige—6-42 | 1770 | 6 | 25.35 | 119 | 32 x 4 |
| Pan American—E-6-55 | 2450 | 6 | 25.35 | 121 | 33 x 4 |
| Pilot—6-50 | .... | 6 | 25.35 | 126 | 32 x 4½ |
| Porter—46 | .... | 4 | ..... | 142 | 35 x 5 |
| Ranger | 1850 | 4 | 18.23 | 116 | 32 x 4 |
| Roamer—6-54-D | .... | 6 | 29.40 | 130 | 32 x 4½ |
| R. & V. Knight—J | 3350 | 6 | 29.40 | 127 | 32 x 4½ |
| Sayers Six—DP | 2595 | 6 | 25.35 | 118 | 33 x 4 |
| Skelton—35 | 1295 | 4 | 19.60 | 112 | 32 x 3½ |
| Stephen—90 | 2400 | 6 | 25.35 | 122 | 33 x 4½ |
| Studebaker—EH | 1750 | 6 | 29.40 | 119 | 32 x 4 |
| Studebaker—EJ | 1650 | 6 | 23.44 | 112 | 32 x 4 |
| Templar—445 | 2885 | 4 | 18.23 | 118 | 32 x 4 |
| Tulsa—E 1-2-3 | 1385 | 4 | 19.60 | 117½ | 33 x 4 |
| Velie—34 | 1485 | 6 | 23.44 | 112 | 33 x 4 |
| Velie—48 | 1885 | 6 | 25.35 | 115 | 33 x 4½ |
| Westcott—C-38 | 2290 | 6 | 25.35 | 118 | 33 x 4 |
| Winton—25 | 4600 | 6 | 33.75 | 132 | 25 x 5 |

## Limousines

| | | | | | |
|---|---|---|---|---|---|
| Brewster | 10600 | 4 | 25.60 | 125 | 32 x 4½ |
| Cadillac—59 | 5290 | 8 | 31.25 | 132 | 35 x 5 |
| Chandler | .... | 6 | 29.40 | 123 | 34 x 4½ |
| Daniels—8-D19 | 6750 | 8 | 39.20 | 132 | 34 x 4½ |
| Haynes—47 | 4250 | 6 | 29.40 | 132 | 34 x 4½ |
| Hudson—O | 4000 | 6 | 29.40 | 126 | 34 x 4½ |
| Hudson—O | 3255 | 6 | 29.40 | 126 | 34 x 4½ |
| Kissel—C. B | 4650 | 6 | 26.34 | 124 | 32 x 4½ |
| LaFayette—134 | 7500 | 8 | 33.80 | 132 | 33 x 5 |
| Lincoln | 6600 | 8 | 36.45 | 136 | 33 x 5 |
| Marmon—34 | 6800 | 6 | 33.75 | 136 | 33 x 5 |
| McFarlan—1921 | 7500 | 6 | 48.60 | 140 | 33 x 5 |
| Packard Twin 6 | 8350 | 12 | 43.20 | 136 | 35 x 5 |
| Peerless—56S7 | 4400 | 8 | 33.80 | 125 | 34 x 4½ |
| Pierce Arrow | 8750 | 6 | 38.40 | 138 | 35 x 5 |
| Porter—46 | .... | 4 | ..... | 142 | 35 x 5 |
| Rock Falls—14000 | 4800 | 6 | 33.75 | 136 | 35 x 5 |
| Roamer—G-S4-D | .... | 6 | 29.40 | 130 | 32 x 4½ |
| Sayers Six—D.P | 4750 | 6 | 25.35 | 130 | 33 x 4 |
| Stearns Knight—SKL-4 | 4250 | 4 | 22.50 | 125 | 34 x 4½ |
| Stevens Duryea—E | 9500 | 6 | 47.27 | 138 | 35 x 5 |
| Westcott—C-48 | 4690 | 6 | 29.40 | 125 | 32 x 4½ |
| Winton—25 | 5950 | 6 | 33.75 | 132 | 35 x 5 |
| Winton—25 | 6200 | 2 | 33.75 | 132 | 35 x 5 |

## Broughams and Town Cars

| | | | | | |
|---|---|---|---|---|---|
| Ace—G | .... | 6 | 25.35 | 123 | 32 x 4 |
| Brewster | 10500 | 4 | 25.60 | 125 | 32 x 4½ |
| Cadillac—59 | 5990 | 8 | 31.25 | 132 | 35 x 5 |
| Cunningham—V4 | .... | 8 | 45.00 | 142 | 35 x 5 |
| Daniels—8 D19 | 7250 | 8 | 39.20 | 132 | 34 x 4½ |
| Franklin Series—9B | 3500 | 6 | 25.35 | 115 | 32 x 4 |
| Haynes—47 | 3950 | 6 | 29.40 | 132 | 34 x 4½ |
| Lincoln | 6250 | 8 | 36.45 | 130 | 33 x 5 |
| Lincoln | 6600 | 8 | 36.45 | 136 | 33 x 5 |
| Marmon—34 | 6800 | 6 | 33.75 | 136 | 33 x 5 |
| McFarlan—1921 | 7500 | 6 | 48.60 | 140 | 33 x 5 |
| Pierce Arrow | 8500 | 6 | 38.40 | 138 | 35 x 5 |
| Porter—46 | .... | 6 | ..... | 142 | 35 x 5 |
| Roamer—6-54-D | .... | 6 | 29.40 | 130 | 32 x 4½ |
| Stevens Duryea—E | 9500 | 6 | 47.27 | 138 | 35 x 5 |
| Winton—25 | 5950 | 6 | 33.75 | 132 | 35 x 5 |

## Coupes—Cabriolet—Couplet, Etc

| | | | | | |
|---|---|---|---|---|---|
| American—C | 3295 | 6 | 25.35 | 127 | 32 x 4 |
| Anderson—540 | .... | 6 | 25.35 | 120 | 33 x 4 |
| Apperson—8-21 | 4500 | 8 | 33.80 | 130 | 34 x 4½ |
| Buick | 2585 | 6 | 27.34 | 118 | 34 x 4½ |
| Cadillac—59 | 4540 | 8 | 31.25 | 124 | 35.x 5 |
| Cadillac—59 | 3790 | 8 | 31.25 | 125 | 35 x 5 |
| Case—V | 3400 | 6 | 29.40 | 126 | 34 x 4½ |

# Buyers' Guide to 1921 Cars—*Continued*

### Coupes—Cabriolet, Couplet, etc. (Continued)

| Name and Model | Price | Cyl. | H. P. | W. B. | Tires |
|---|---|---|---|---|---|
| Chevrolet—490 | 1325 | 4 | 21.76 | 102 | 30 x 3½ |
| Cleveland—40 | 2345 | 6 | 21.60 | 112 | 32 x 4 |
| Cole—883 | .... | 8 | 39.20 | 127 | 33 x 5 |
| Columbia Six | 2895 | 6 | 25.35 | 115 | 32 x 4 |
| Cunningham—V4 | .... | 8 | 45.00 | 142 | 35 x 5 |
| Chandler | .... | 6 | 29.40 | 123 | 34 x 4½ |
| Daniels—D19 | 6250 | 8 | 39.20 | 132½ | 34 x 4½ |
| Davis—51 | 3085 | 6 | 25.35 | 120 | 33 x 4 |
| Dixie—HS70 | 2570 | 4 | 19.60 | 112 | 32 x 4 |
| Dodge Brothers | 1900 | 4 | 24.03 | 114 | 32 x 3½ |
| Dorris—6-80 | 5800 | 6 | 38.40 | 132 | 33 x 5 |
| Dort—17-A | .... | 4 | 19.60 | 108 | 31 x 4 |
| Essex—A | .... | 4 | 18.23 | 108½ | 32 x 4 |
| Franklin—Series 9B | 2750 | 6 | 25.35 | 115 | 32 x 4 |
| Friend Four | 2485 | 4 | 16.90 | 112 | 32 x 3½ |
| Grant Six—HX | 2450 | 6 | 22.52 | 116 | 32 x 4 |
| Hudson—O | 3275 | 6 | ..... | 126 | 34 x 4½ |
| Hudson—O | 3000 | 6 | 29.40 | 126 | 34 x 4½ |
| Holmes—Series 4 | 4250 | 6 | 29.40 | 126 | 34 x 4½ |
| Hupmobile—Series R | 2725 | 4 | 16.90 | 112 | 32 x 4 |
| Jackson—6-38 | 3760 | 6 | 25.35 | 121 | 32 x 4½ |
| Kissel | 4275 | 6 | 26.34 | 124 | 32 x 4½ |
| Kenworthy—8-90 | .... | 8 | 28.80 | 130 | 32 x 4½ |
| Kline Kar—6-55-R | 3250 | 6 | 25.35 | 121 | 33 x 4 |
| La Fayette—1-34 | 7200 | 8 | 33.80 | 132 | 33 x 5 |
| Lexington—Series S | 3250 | 6 | 25.35 | 122 | 32 x 4 |
| Lexington—Series T | 4150 | 6 | 25.35 | 128 | 32 x 4½ |
| Lorraine—21T | 2590 | 4 | 19.60 | 114 | 32 x 4 |
| Liberty—1dc | 2825 | 6 | 23.44 | 117 | 32 x 4 |
| Lincoln | 5750 | 8 | 36.45 | 130 | 33 x 5 |
| Marmon—34 | 6150 | 6 | 33.75 | 136 | 33 x 5 |
| McFarlan—1921 | 7500 | 6 | 48.60 | 140 | 33 x 5 |
| Mitchell—F40 | 2800 | 6 | 25.35 | 120 | 33 x 4 |
| Metz—1921 | 2795 | 6 | 23.44 | 120 | 32 x 4 |
| Moon—6-48-21 | 2985 | 6 | 25.35 | 122 | 32 x 4 |
| Nash—681 | .... | 6 | 25.35 | 127 | 34 x 4½ |
| National Sextet—B.B | 4900 | 6 | 29.40 | 130 | 32 x 4½ |
| Oldsmobile—43A | 2145 | 4 | 21.76 | 115 | 32 x 4 |
| Oakland—34C | 2065 | 6 | 18.99 | 115 | 32 x 4 |
| Overland—4 | 1425 | 4 | 18.23 | 100 | 30 x 3½ |
| Packard Twin 6 | 8200 | 12 | 43.20 | 136 | 35 x 5 |
| Packard Single 6 | 4150 | 6 | 27.34 | 116 | 33 x 4½ |
| Paige—6-42 | 2525 | 6 | 25.35 | 119 | 32 x 4 |
| Paige—6-66 | 3675 | 6 | 33.75 | 131 | 33 x 4½ |
| Paterson—6-50 | 2800 | 6 | 25.35 | 120 | 34 x 4½ |
| Peerless—56S7 | 3920 | 8 | 33.80 | 125 | 34 x 4½ |
| Pilot—6-50 | .... | 6 | 25.35 | 126 | 32 x 4½ |
| R. & V. Knight—J | 4000 | 6 | 29.40 | 127 | 32 x 4½ |
| Roamer—6-54-D | .... | 6 | 29.40 | 130 | 32 x 4½ |
| Saxon—125 | .... | 4 | 18.23 | 112 | 32 x 4 |
| Reo—T6 | 2700 | 6 | 24.39 | 120 | 33 x 4 |
| Scripps-Booth—B-39 | .... | 6 | 18.99 | 115 | 32 x 4 |
| Studebaker—EH | 2650 | 6 | 29.40 | 119 | 32 x 4 |
| Stearns Knight—SKL4 | 3400 | 4 | 22.50 | 125 | 34 x 4½ |
| Templar—445 | 3785 | 4 | 18.23 | 118 | 32 x 4 |
| Velie—34 | 2485 | 6 | 23.44 | 112 | 33 x 4 |
| Velie—48 | .... | 6 | 25.35 | 115 | 33 x 4½ |
| Westcott—C-38 | 3390 | 6 | 25.35 | 118 | 33 x 4 |
| Willys Knight—20 | 2845 | 4 | 21.03 | 118 | 34 x 4½ |

## Berlines

| | | | | | |
|---|---|---|---|---|---|
| Cadillac—59 | 5390 | 8 | 31.25 | 132 | 35 x 5 |
| Cole—884 | .... | 8 | 39.20 | 127 | 33 x 5 |
| Cunningham—V4 | .... | 8 | 45.00 | 142 | 35 x 5 |
| Daniels—8 D19 | 7025 | 8 | 39.20 | 132½ | 34 x 4½ |

## Sedans

| | | | | | |
|---|---|---|---|---|---|
| Ace, G | .... | 6 | 25.35 | 123 | 32 x 4 |
| Allen—43 | .... | 4 | 19.60 | 110 | 32 x 4 |
| American—C | 3495 | 6 | 25.35 | 127 | 32 x 4 |
| Anderson—Series 40 | .... | 6 | 25.35 | 120 | 33 x 4 |
| Apperson—8-21 | 4500 | 8 | 33.80 | 130 | 34 x 4½ |
| Auburn—6-39 | .... | 6 | 25.35 | 120 | 33 x 4 |
| Brewster—91 | 10500 | 4 | 25.60 | 125 | 32 x 4½ |
| Briscoe—4-34 | 1885 | 4 | 18.23 | 109 | 31 x 4 |
| Buick | 2885 | 6 | 27.30 | 118 | 33 x 4 |
| Buick | 3295 | 6 | 27.30 | 124 | 34 x 4½ |
| Cadillac—59 | 4950 | 8 | 31.25 | 125 | 35 x 5 |

### Sedans (Continued)

| Name and Model | Price | Cyl. | H. P. | W. B. | Tires |
|---|---|---|---|---|---|
| Cadillac—59 | 5190 | 8 | 31.25 | 132 | 35 x 5 |
| Case—V | 3750 | 6 | 29.40 | 126 | 34 x 4½ |
| Chevrolet—490 | 1375 | 4 | 21.76 | 102 | 30 x 3½ |
| Cleveland—40 | 2445 | 6 | 21.60 | 112 | 32 x 4 |
| Cole—879 | .... | 8 | 39.20 | 127 | 33 x 5 |
| Cole—878 | .... | 8 | 39.20 | 127 | 33 x 5 |
| Columbia Six | 2895 | 6 | 25.35 | 115 | 32 x 4 |
| Chandler | .... | 6 | 29.40 | 123 | 34 x 4½ |
| Commonwealth—44 | 2465 | 4 | 19.60 | 117 | 32 x 4 |
| Crawford—21-6-40 | 4500 | 6 | 29.40 | 122½ | 32 x 4 |
| Daniels—8-D19 | 6950 | 8 | 39.20 | 132½ | 34 x 4½ |
| Davis—51 | 3085 | 6 | 25.35 | 120 | 33 x 4 |
| Dixie Flyer—NS70 | 2570 | 4 | 19.60 | 112 | 32 x 4 |
| Dodge Brothers | 2150 | 4 | 24.03 | 114 | 32 x 3½ |
| Dorris—6-80 | 6690 | 6 | 38.40 | 132 | 33 x 5 |
| Dort—17A | .... | 4 | 19.60 | 108 | 31 x 4 |
| Elgin Six—K | 2685 | 6 | 23.44 | ... | 33 x 4 |
| Essex—A | .... | 4 | 18.23 | 108½ | 32 x 4 |
| Ferris | 4875 | 6 | 29.40 | 130 | 32 x 4½ |
| Franklin—Series 9B | 3600 | 6 | 25.35 | 115 | 32 x 4 |
| Friend Four | 2585 | 4 | 16.90 | 112 | 32 x 3½ |
| Gardner—G | 2145 | 4 | 16.90 | 112 | 32 x 4 |
| Globe—B-10 | .... | 4 | 18.23 | 115 | 32 x 4 |
| Hanson Six—60 | 3165 | 6 | 25.35 | 121 | 32 x 4 |
| Hatfield—A42 | 2595 | 4 | 19.60 | 115 | 32 x 4 |
| Haynes—47 | 4250 | 6 | 29.40 | 132 | 34 x 4½ |
| Hudson—O | 3400 | 6 | 25.35 | 126 | 34 x 4½ |
| Grant Six—HX | 2450 | 6 | 22.52 | 116 | 33 x 4½ |
| Holmes—Series 4 | 4550 | 6 | 29.40 | 126 | 34 x 4½ |
| Hupmobile—Series R | 2800 | 4 | 16.90 | 112 | 32 x 4 |
| Jackson—6-38 | 3760 | 6 | 25.35 | 121 | 32 x 4½ |
| Kissel | 4275 | 6 | 26.34 | 134 | 32 x 4½ |
| Kenworthy—8-90 | .... | 8 | 48.80 | 130 | 32 x 4½ |
| Kline Kar—6-55-R | 3200 | 6 | 25.35 | 121 | 33 x 4 |
| La Fayette—134 | 7400 | 8 | 31.25 | 132 | 33 x 5 |
| Lexington—Series S | 2785 | 6 | 25.35 | 122 | 32 x 4 |
| Lexington—Series T | 4250 | 6 | 25.35 | 128 | 32 x 4½ |
| Lexington—Series T | 4150 | 6 | 25.35 | 128 | 32 x 4½ |
| Lorraine—21T | 2590 | 4 | 19.60 | 114 | 32 x 4 |
| Liberty—10c | 2850 | 6 | 23.44 | 117 | 32 x 4 |
| Lincoln | 6000 | 8 | 36.45 | 130 | 33 x 5 |
| McFarlan—1921 | 7500 | 6 | 48.60 | 140 | 33 x 5 |
| Mitchell—F40 | 2900 | 6 | 25.35 | 120 | 33 x 4 |
| Metz Master 6 | 2895 | 6 | 23.44 | 120 | 32 x 4 |
| Moon—6-48-21 | 2985 | 6 | 25.35 | 122 | 32 x 4 |
| Nash—681 | .... | 6 | 25.35 | 127 | 34 x 4½ |
| National Sextette—BB | 4950 | 6 | 29.40 | 130 | 32 x 4½ |
| Oldsmobile—43A | 2145 | 4 | 21.76 | 115 | 32 x 4 |
| Oakland—34c | 2065 | 6 | 18.99 | 115 | 32 x 4 |
| Overland—4 | 1475 | 4 | 18.23 | 100 | 30 x 3½ |
| Packard Twin 6 | 8450 | 12 | 43.20 | 136 | 35 x 5 |
| Packard Single 6 | 4250 | 6 | 27.34 | 116 | 33 x 4½ |
| Paige—6-42 | 1990 | 6 | 25.35 | 119 | 32 x 4 |
| Paige—6-66 | 3750 | 6 | 33.75 | 131 | 33 x 4½ |
| Pan-American—E-6-55 | 3600 | 6 | 25.35 | 121 | 33 x 4 |
| Pan-American—E-6-55 | 2850 | 6 | 25.35 | 121 | 33 x 4 |
| Paterson—6-50 | 2800 | 6 | 25.35 | 120 | 34 x 4½ |
| Peerless—56-S7 | 4140 | 8 | 33.80 | 125 | 34 x 4½ |
| Pierce Arrow | 8500 | 6 | 38.40 | 138 | 35 x 5 |
| Pierce Arrow | 4000 | 6 | 38.40 | 138 | 35 x 5 |
| Pilot—6-50 | .... | 6 | 25.35 | 126 | 32 x 4½ |
| Reo—T6 | 2750 | 6 | 24.39 | 120 | 33 x 4 |
| R. & V. Knight—J | 4200 | 6 | 29.40 | 127 | 32 x 4½ |
| R. & V. Knight—R | .... | 4 | 22.50 | 116 | 32 x 4 |
| Roamer—6-54-P | .... | 6 | 29.40 | 130 | 32 x 4½ |
| Saxon—125 | 2795 | 4 | 18.23 | 112 | 32 x 4 |
| Sayers—D.P | 3295 | 6 | 25.35 | 118 | 33 x 4 |
| Scripps Booth—B-39 | 2295 | 6 | 18.99 | 115 | 32 x 4 |
| Stephens—90 | 3400 | 6 | 25.35 | 122 | 33 x 4½ |
| Studebaker—EH | 2750 | 6 | 29.40 | 119 | 32 x 4 |
| Studebaker—EJ | 2150 | 6 | 23.44 | 112 | 32 x 4 |
| Stearns Knight—SKL4 | 3700 | 4 | 22.50 | 125 | 34 x 4½ |
| Templar—445 | 3785 | 4 | 18.23 | 118 | 32 x 4 |
| Velie—34 | 2485 | 6 | 23.44 | 112 | 33 x 4 |
| Velie—48 | .... | 6 | 25.35 | 115 | 33 x 4½ |
| Westcott—c-38 | 3390 | 6 | 25.35 | 118 | 33 x 4 |
| Westcott—c-48 | 4590 | 6 | 29.40 | 125 | 32 x 4½ |
| Willys Knight—20 | .... | 4 | 21.03 | 118 | 34 x 4½ |
| Winton—25 | 5950 | 6 | 33.75 | 132 | 35 x 5 |
| Winton—25 | 6200 | 6 | 33.75 | 132 | 35 x 5 |

# 1921 Passenger Automobiles Listed

| MAKE AND MODEL | Wheelbase | Number of Cylinders | Bore and Stroke | Piston Displacement | Make of Engine | Cylinder Shape | Camshaft Drive | Water Circulation | LUBRICATION | | CARBURETION | | IGNITION | | | ELECTRIC SYSTEM | | CLUTCH | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | System | Type of Pump | Make of Carburetor | Fuel Feed | System | Make | Control | Generator Make | Voltage | Make | Type |
| Ace G | 123 | 6 | 3¼x5 | 248.9 | Guy | I. | Worm. | Pump. | Splash-Pr. | Piston. | | Vacuum. | Single. | At Kent. | Hand. | Auto-Lite. | 6 | Warner Gr. | Disk. |
| Allen 43 | 110 | 4 | 3½x5 | 192.4 | Own. | L. | Helical. | Ther. | Splash-Pr. | Gear. | Stromberg. | Vacuum. | ingle. | Conn. | Hand. | Westinghouse | 6 | Borg & Beck. | Plate. |
| American C | 127 | 6 | 3¼x5 | 248.9 | Hersh-Sp. | L. | Helical. | Pump. | Splash-Pr. | Gear. | Stromberg. | Vacuum. | Single. | At Kent. | Hand. | G. & D. | 6 | Borg & Beck. | Plate. |
| Andersen S-40 | 120 | 6 | 3¼x4½ | 224.0 | Continental. | L. | Helical. | Pump. | Splash-Pr. | Gear. | Rayfield. | Vacuum. | Single. | Remy. | Hand. | Remy. | 6 | Borg & Beck. | Plate. |
| Apperson 8-21 | 130 | 8 | 3¼x5 | 331.8 | Own. | L. | Helical. | Ther. | Pressure. | Gear. | Johnson. | Vacuum. | Single. | Remy. | Hand. | Bijur | 6 | Own. | Plate. |
| Auburn 6-39 | 120 | 6 | 3¼x4½ | 224.0 | Continental. | L. | Helical. | Pump. | Pressure. | Gear. | Rayfield. | Vacuum. | Single. | Remy. | Hand. | Remy. | 6 | Borg & Beck | Plate. |
| Bour Davis 215 | 126 | 6 | 3½x5¼ | 303.1 | Continental. | L. | Helical. | Pump. | Splash-Pr. | Piston. | Zenith. | Vacuum. | Single. | Westinghouse | Hand. | Westinghouse | 6 | Mun ie | Disk. |
| Brewster 91 | 125 | 4 | 4 x5½ | 276.5 | Own. | K. | Chain. | Pump. | Pressure. | Gear. | Zenith. | Vacuum. | Single. | Bosch. | Hand. | U. S. L. | 12 | Own. | Cone. |
| Briscoe 4-34 | 109 | 4 | 3⅜x5 | 178.9 | Own. | L. | Helical. | Ther. | Splash-Pr. | Piston. | Seoe | Gravity | Single. | Conn. | Hand. | Auto-Lite. | 6 | Own. | Cone. |
| Buick 1921 | 118 | 6 | 3½x4½ | 241.6 | Own. | I. | Helical. | Pump. | Splash-Pr. | Gear. | Marvel. | Vacuum. | Single. | Delco. | H. & A. | Delco. | 6 | Own. | Di k. |
| Cadillac 59 | 132 | 8 | 3½x5⅛ | 314.4 | Own. | L. | Chain. | Pump. | Pressure. | Gear. | Own. | Pressure. | Single. | Delco. | H. & A. | Delco. | 6 | Own. | Disk. |
| Case V | 126 | 6 | 3½x5¼ | 303.1 | Continental. | L. | Helical. | Pump. | Splash-Pr. | Piston. | Rayfield. | Vacuum. | Single. | Delco. | H. & A. | Westinghouse | 6 | Borg & Beck. | Plate. |
| Chalmers 6-30 | 117 | 6 | 3¼x4½ | 224.0 | Own. | L. | Chain. | Ther. | Splash-Pr. | Gear. | | Vacuum. | Single. | | Hand. | | 6 | Own. | Disk. |
| Chalmers 6-30 | 122 | 6 | 3¼x4½ | 224.0 | Own. | L. | Chain. | Ther. | Splash-Pr. | Gear. | | Vacuum. | Single. | | Hand. | | 6 | Own. | Disk. |
| Champion Tourist | 116 | 4 | 3½x5 | 192.4 | Hersh-Sp. | L. | | Ther. | | | Zenith. | | Single. | Dyneto. | Hand. | Dyneto. | | Borg & Beck. | Plate. |
| Champion Special | 118 | 4 | 3½x5 | 192.4 | Lycoming. | L. | | Ther. | | | Zenith. | | Single. | Dyneto. | Hand. | Dyneto. | | Borg & Beck. | Plate. |
| Chandler | 123 | 6 | 3½x5 | 288.6 | Own. | L. | Chain. | Pump. | Splash-Pr. | Piston. | Rayfield. | Vacuum. | Single. | Bosch. | Hand. | Bosch. | 6 | Borg & Beck. | Plate. |
| Chevrolet 490 | 102 | 4 | 3½x4 | 170.9 | Own. | I. | | Pump. | Splash-Pr. | Gear. | Zenith. | Gravity | Single. | Remy. | Hand. | | | | Cone. |
| Chevrolet FB-50 | 110 | 4 | 3¼x5¼ | 224.3 | | | | Pump. | Splash-Pr. | Gear. | Zenith. | Vacuum. | Single. | Remy. | | Auto-Lite. | | | Cone. |
| Cleveland 40 | 112 | 6 | 3 x4½ | 190.8 | Own. | I. | Chain. | Pump. | Splash-Pr. | Gear. | Stromberg. | Vacuum. | Single. | Bosch. | Hand. | Bosch. | 6 | Borg & Beck. | Plate. |
| Cole 870 | 127 | 8 | 3½x4½ | 346.3 | Northway. | L. | Helical. | Pump. | | Gear. | Johnson. | Vacuum. | Single. | Deleo. | H. & A. | Deleo. | 6 | Northway. | Cone. |
| Columbia Six DC | 115 | 6 | 3¼x4½ | 224.0 | Continental. | L. | Helical. | Pump. | Pressure. | Gear. | Stromberg. | Vacuum. | Single. | At Kent. | Hand. | Auto-Lite. | 6 | Borg & Beck. | Plate. |
| Comet | 125 | 6 | 3½x5¼ | 303.1 | Continental. | L. | Helical. | Pump. | Circ-Sp. | Piston. | Stromberg. | Vacuum. | Single. | | Hand. | Wagner | 6 | Borg & Beck. | Plate. |
| Commonwealth 44 | 117 | 4 | 3½x5 | 192.4 | Hersh-Sp. | L. | Helical. | Ther. | Circ-Spl. | Gear. | Carter. | Vacuum. | Single. | Splitdorf. | Hand. | Dyneto | 6 | Borg & Beck | Plate. |
| Crawford 21-6-40 | 122 | 6 | 3½x5¼ | 303.1 | Continental. | L. | Helical. | Pump. | Circ-Spl. | | Stromberg. | Vacuum. | Single. | At Kent. | Hand. | Westinghouse | 6 | Brown-Lipe. | Disk. |
| Crow-Elkhart L53-56 | 117 | 4 | 3½x5 | 192.4 | Lycoming. | L. | Helical. | Ther. | Circ-Sp. | Piston. | Zenith. | Vacuum. | Single. | Conn. | Hand. | Dyneto. | 6 | Borg & Beck. | Plate. |
| Crow-Elkhart H53-56 | 117 | 6 | 3½x5 | 230.1 | Rutenber. | L. | Helical. | Pump. | Circ-Sp. | Piston. | Zenith. | Vacuum. | Single. | Conn. | Hand. | Dyneto | 6 | Borg & Beck. | Plate. |
| Cunningham V-4 | 132 | 8 | 3¾x5 | 441.7 | Own. | L. | Helical. | Pump. | Pressure. | Gear. | Stromberg. | Vacuum. | Single. | Deleo. | Auto. | Deleo | 6 | Own. | Disk. |
| Daniels 8 D-19 | 132 | 8 | 3½x5¼ | 404.1 | Own. | L. | Helical. | Pump. | Pressure. | Gear. | Zenith. | Pressure. | Single. | Delco. | Hand. | Delco | 6 | Own. | Disk. |
| Davis 51 | 120 | 6 | 3¼x4½ | 224.0 | Continental. | L. | Helical. | Pump. | Pressure. | Gear. | Stromberg. | Vacuum. | Single. | Delco. | Hand. | Delco | 6 | Borg & Beck | Plate. |
| Dodge Brothers | 114 | 4 | 3⅞x4½ | 212.3 | Own. | L. | Helical. | Pump. | Circ-Sp. | Gear. | Stewart. | Vacuum. | Single. | North-East. | Auto. | North-East. | 15 | Own. | Disk. |
| Dort 17-A | 108 | 4 | 3½x5 | 192.4 | Lycoming. | L. | Helical. | Ther. | Circ-Sp. | Piston. | Carter | Vacuum. | Single. | Conn. | Hand. | Westinghouse | 6 | Own. | Cone. |
| Dixie-Flyer H-S-70 | 112 | 4 | 3½x5 | 192.4 | Hersh-Spill. | L. | Helical. | Ther. | Splash-Pr. | Gear. | Stromberg. | Vacuum. | Single. | Eisemann. | Hand. | Dyneto. | 6 | Borg & Beck | Plate. |
| Dorris 680 | 132 | 6 | 4 x5 | 377.0 | Own. | I. | Helical. | Pump. | Pressure. | Gear. | Stromberg. | Vacuum. | Single. | Bosch. | Hand. | Westinghouse | 6 | Warner-Gr. | Disk. |
| Elcar 7-R | 117 | 6 | 3¼x4½ | 224.0 | Continental. | L. | Helical. | Pump. | Pressure. | Gear. | Stromberg. | Vacuum. | Single. | Deleo. | Hand. | Deleo | 6 | Warner Gr. | Disk. |
| Elgin Six K | | 6 | 3½x4¾ | 218.6 | Falls. | I. | Helical. | Ther. | Splash-Pr. | Piston. | Stromberg. | Vacuum. | Single. | Wagner | Hand. | Westinghouse | 6 | Borg & Beck | Plate. |
| Essex A | 108½ | 4 | 3⅜x5 | 153.4 | Own. | F. | Helical. | Ther. | Circ-Sp. | Piston. | Own. | Vacuum. | Single. | Delco. | H. & A. | Deleo. | 6 | Own. | Di k. |
| Friend Four | 112 | 4 | 3¼x4½ | 149.3 | Own. | I. | Helical. | Ther. | Pressure. | Gear. | Stromberg. | Vacuum. | Single. | Conn. | Hand. | Wagner | 6 | Borg & Beck. | Plate. |
| Ferris | 130 | 6 | 3½x5¼ | 303.1 | Continental. | L. | Helical. | Pump. | Pressure. | Piston. | Zenith. | Vacuum. | Single. | | Hand. | Leece-N. | 6 | Brown-Lipe. | Disk. |
| Franklin 9-B | 115 | 6 | 3¼x5¼ | 261.3 | Own. | I. | Helical. | None. | Pressure. | Gear. | Own. | Vacuum. | Single. | At Kent. | Auto. | Dyneto | 12 | Own. | Plate. |
| Ford T | 100 | 4 | 3¾x4 | 176.7 | Own. | L. | Spur. | Ther. | Circ-Sp. | | Holley. | Gravity. | Dual. | Own. | Hand. | Own | 6 | Own. | Fric. |
| Gardner "G" | 112 | 4 | 3½x5 | 192.4 | Lycoming. | L. | Helical. | Ther. | Circ-Sp. | | Carter. | Vacuum. | Single. | Westinghouse | Hand. | Westinghouse | 6 | Borg & Beck | Plate. |
| Grant HX | 116 | 6 | 3⅛x4½ | 198.9 | Own. | I. | Helical. | Ther. | Splash-Pr. | Gear. | Stromberg. | Vacuum. | Single. | At Kent. | Hand. | Bijur | 6 | Borg & Beck. | Plate. |
| Globe B-10 | 115 | 4 | 3⅝x5 | 178.9 | Supreme. | | | Ther. | | | Stromberg. | Vacuum. | Single. | Delco. | Hand. | Deleo | 6 | Warren. | |
| Hanson 60 | 121 | 6 | 3¼x4½ | 224.0 | Continental. | L. | Helical. | Pump. | Pressure. | Gear. | Marvel. | Vacuum. | Single. | Deleo. | Hand. | Deleo | 6 | Borg & Beck. | Plate. |
| Harroun A-A-2 | 106 | 4 | 3¼x5¼ | 174.2 | Own. | I. | Helical. | Ther. | Splash-Pr. | Piston. | Stromberg. | Vacuum. | Single. | Remy. | Hand. | Remy. | 6 | Own. | Cone. |
| Halladay 21 | 116 | 6 | 3½x5 | 230 1 | Rutenber. | L. | Helical. | Pump. | Splash-Pr. | Eccentric. | Stromberg. | Vacuum. | Single. | At Kent. | Hand. | Westinghouse | 6 | Borg & Beck. | Plate. |
| Hatfield A-42 | 115 | 4 | 3½x5 | 192.4 | Hersh-Sp. | L. | Helical. | Ther. | Circ-Sp. | Gear. | Zenith. | Vacuum. | Single. | Conn. | Hand. | Dyneto. | 6 | Borg & Beck. | Plate. |
| Haynes 47 | 132 | 6 | 3½x5 | 288.6 | Own. | L. | Helical. | Pump. | Circ-Sp. | Piston. | Rayfield. | Vacuum. | Single. | Kingston. | Hand. | Leece-N. | 6 | Borg & Beck. | Plate. |
| H. C. S. Series 3 | 120 | 4 | 3⅝x5½ | 227 1 | Weidely. | I. | Helical. | Pump. | Pressure. | Gear. | Stromberg. | Pressure. | Single. | Delco. | Hand. | Delco | 6 | Warner-Gr. | Plate. |
| Holmes Series 4 | 126 | 6 | 3½x4¾ | 245.3 | Own. | I. | Helical. | | Pressure. | Gear. | Stromberg. | Vacuum. | Single. | Eisemann. | Auto. | Dyneto. | 12 | Brown-Lipe. | Disk. |
| Hudson Super-Six O | 126 | 6 | 3½x5 | 288.6 | Own. | L. | Helical. | Pump. | Circ-Sp. | Plunger. | Own. | Vacuum. | Single. | Delco. | H. & A. | Deleo. | 6 | Own. | Disk. |
| Hupmobile R | 112 | 4 | 3¼x5½ | 182.5 | Own. | L. | Chain. | Ther. | Splash-Pr. | Gear. | Stromberg. | Vacuum. | Single. | At Kent. | Hand. | Westinghouse | 6 | Own. | Disk. |
| Jackson 6-38 | 121 | 6 | 3¼x4½ | 224.0 | Continental. | L. | Helical. | Pump. | Pressure. | Gear. | Stromberg. | Vacuum. | Single. | Remy. | Hand. | Auto-Lite. | 6 | Borg & Beck. | Plate. |
| Jordan M | 120 | 6 | 3¼x4½ | 224.0 | Continental. | L. | Helical. | Pump. | Pressure. | Gear. | Stromberg. | Vacuum. | Single. | Deleo. | Hand. | Deleo | 6 | Detroit. | Plate. |
| Kenworthy 8-90 | 130 | 8 | 3 x5¼ | 296.9 | Own. | I. | Helical. | Pump. | Pressure. | Gear. | Stromberg. | Vacuum. | Single. | | Hand. | Bijur | 6 | Brown-Lipe. | Disk. |
| Kissel Custom Built | 124 | 6 | 3⅛x5½ | 284.4 | Own. | L. | Helical. | Pump. | Splash-Pr. | Gear. | Stromberg. | Vacuum. | Single. | Remy. | Hand. | Remy. | 6 | Warner-Gr. | Disk. |
| King H | 120 | 8 | 3 x5 | | Own. | I. | Chain. | Ther. | Pressure. | Gear. | Ball & Ball. | Vacuum. | Single. | At Kent. | Hand. | Westinghouse | 6 | Detroit. | Plate. |
| Kline Kar 655-K | 121 | 6 | 3¼x4½ | 224.0 | Continental. | L. | Helical. | Pump. | Pressure. | Gear. | Rayfield. | Vacuum. | Single. | Conn. | Hand. | Wagner | 6 | Borg & Beck. | Plate. |
| LaFayette 134 | 132 | 8 | 3¼x5¼ | 348.4 | Own. | L. | Chain. | Pump. | Splash-Pr. | Gear. | Own. | Pressure. | Single. | Delco. | H. & A. | Deleo | 6 | Own. | Disk. |
| Lexington Series S | 122 | 6 | 3¼x4½ | 224.0 | Continental. | L. | Helical. | Pump. | Pressure. | Gear. | Rayfield. | Vacuum. | Single. | Conn. | Hand. | G. & D. | 6 | Borg & Beck. | Plate. |
| Lexington Series T | 128 | 6 | 3¼x4½ | 224.0 | Ansted. | I. | Helical. | Pump. | Pressure. | Gear. | Rayfield. | Vacuum. | Single. | Conn. | Hand. | G. & D. | 6 | Own. | Disk. |
| Liberty | 117 | 6 | 3½x5 | 230.1 | Own. | L. | Helical. | Ther. | Splash-Pr. | Gear. | Stromberg. | Vacuum. | Single. | Wagner | Hand. | Wagner | 6 | Borg & Beck. | Plate. |
| Locomobile 48 | 142 | 6 | 4½x5½ | 524.8 | Own. | T. | Helical. | Pump. | Splash-Pr. | Gear. | Ball & Ball | Pressure. | Double. | Berling. | Hand. | Westinghouse | 6 | Own. | Disk. |
| Lorraine 21-T | 114 | 4 | 3½x5 | 192.4 | Hersh-Sp. | L. | Helical. | Ther. | Splash-Pr. | Gear. | Johnson | Vacuum. | Single. | Westinghouse | Hand. | Westinghouse | 6 | Borg & Beck. | Plate. |
| Lincoln | 130 | 8 | 3⅜x5 | 357.8 | Own. | L. | Chain. | Pump. | Pressure. | Gear. | Own. | Vacuum. | Single. | Delco. | H. & A. | Deleo | 6 | Own. | Disc. |
| Mailbohm B | 116 | 6 | 3¼x4¼ | 195.6 | Falls. | I. | Helical. | Ther. | Splash-Pr. | Piston. | Stromberg. | Vacuum. | Single. | At Kent. | Hand. | Bijur | 6 | Borg & Beck. | Plate. |
| Meteor R&RR | 129 | 4 | 4¼x6 | 340.4 | Roe-Dues. | H. | Chain. | Pump. | Pressure. | Gear. | Zenith. | Vacuum. | Single. | Simms. | Hand. | Westinghouse | 6 | Borg & Beck. | Plate. |
| Marmon 34 | 136 | 6 | 3¾x5⅛ | 339.7 | Own. | I. | Helical. | Pump. | Pressure. | Gear. | Stromberg. | Gravity | Single. | Delco. | H. & A. | Deleo | 6 | Own. | Plate. |
| Maxwell 25 | 109 | 4 | 3⅝x4½ | 185.8 | Own. | L. | Helical. | Ther. | Splash-Pr. | Piston. | | Vacuum. | Single. | | Hand. | | 12 | Own. | Cone. |
| McFarlan 1921 | 140 | 6 | 4½x6 | 572.5 | Own. | T. | Helical. | Pump. | | Gear. | Rayfield. | Vacuum. | Dual. | Berling. | Hand. | Westinghouse | 6 | Borg & Beck. | Plate. |
| Mercer 5 | 115 | 4 | 3¾x6¾ | 298.2 | Own. | L. | Chain. | Pump. | Pressure. | Gear. | Ball & Ball | Vacuum. | Single. | Eisemann. | Hand. | Westinghouse | 6 | Own. | Plate. |
| | 132 | | | | | | | | | | | | | | | | | | |
| Metz Master Six | 120 | 6 | 3½x5 | 230.1 | Rutenber. | I. | Helical. | Pump. | Splash-Pr. | Piston. | Stromberg. | Vacuum. | Single. | Conn. | Hand. | G. & D. | 6 | Borg & Beck. | Plate. |
| Mitchell | 120 | 6 | 3¼x5 | 248.9 | Own. | L. | Helical. | Pump. | Splash-Pr. | | Rayfield. | Vacuum. | Single. | Remy. | Hand. | Remy. | | Borg & Beck. | Plate. |
| Moon 6-48-21 | 122 | 6 | 3¼x4½ | 224.0 | Continental. | | Helical. | Pump. | Pressure. | Gear. | Rayfield. | Vacuum. | Single. | Deleo. | Auto. | Delco | 6 | Borg & Beck. | Plate. |
| Nash 681 | 121 | 6 | 3¼x5 | 248.9 | Own. | I. | Helical. | Pump. | Splash-Pr. | Gear. | Marvel. | Vacuum. | Single. | Wagner | H. & A. | Wagner | 6 | Borg & Beck. | Plate. |
| National Sextet B.B. | 130 | 6 | 3½x5¼ | 303.1 | Own. | I. | Chain. | Pump. | Pressure. | Gear. | Rayfield. | Vacuum. | Single. | Delco. | H. & A. | Westinghouse | 6 | Borg & Beck. | Plate. |
| Oakland 34-C | 115 | 6 | 3⅛x4¾ | 177.0 | Own. | I. | Helical. | Pump. | Pressure. | Gear. | Marvel. | Vacuum. | Single. | Remy. | Hand. | Remy. | 6 | Own. | Plate. |
| Oldsmobile 43-A | 115 | 4 | 3½x5¼ | 224.3 | Own. | I. | Helical. | Pump. | Splash-Pr. | Gear. | Zenith. | Vacuum. | Single. | Remy. | Hand. | Auto-Lite. | 6 | Hoosier. | Plate. |
| Overland 4 | 100 | 4 | 3½x4 | 143.1 | Own. | L. | Helical. | Ther. | Splash. | | Tillotson | Gravity | Single. | Conn. | Hand. | Auto-Lite. | 6 | Own. | Plate. |

**ABBREVIATIONS**—¾ **Ell**—¾ Elliptic; ¾ **Flont**—¾ Floating; **Amid**—Amidships; **Auto**—Automatic; **B & P**—Ball and Plain; **B & R**—Ball and Roller; **B R & P**—Ball, Roller and Plain; **Cant**—Cantilever; **Circ-Spl**—Circulating Splash; **Ell**—Elliptic; **F**—1 Valve in Head, 1 in Side; **Flont**—Floating; **Fric**—Friction; **Gear**—Gear Pump; **H & A**—Hand and Automatic; **H**—Valves horizontal in side; **I**—I-Head; **K**—Knight Type; **L**—L-Head; **Opt**—Optional; **Plat**—Platform; **S-E**—Semi-Elliptic; **Semi-F**—Semi-Floating; **Sp. B**—Spiral Bevel;

# with Their Technical Specifications

| TRANSMISSION | | | | | | | | RUNNING GEAR | | | | | | | BEARINGS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GEARSET | | | Final Drive | Torque Taken By | Make of Rear Axle | Rear Axle Type | Gear Ratio on Direct | TIRES | | Wheels | Rear Springs | Make of Steering Gear | Make of Speedometer | Crankshaft Bearings and No. | Gear Set | Rear Axle | Front Wheel | MAKE AND MODEL |
| Make | Location. | Speeds | | | | | | Front | Rear | | | | | | | | | |
| Warner Gr.. | Unit E. | 3 | Sp. B... | Tor-A.... | Salisbury | Float.... | 4.56 | 32x4 | 32x4 | Wood.. | S-E.... | Gemmer.... | Stewart.... | Plain 3.. | B.&R.. | B.&R.. | Roller.. | Ace.....G |
| Own..... | Unit E. | 3 | Sp. B... | Springs.. | Columbia. | ¾ Float. | 4.63 | 32x4 | 32x4 | Wood.. | S-E.... | Ditweiler... | Stewart.... | Plain 3.. | B.&R.. | Roller.. | Roller.. | Allen.....43 |
| Warner..... | Unit E. | 3 | Worm... | Springs.. | Salisbury | Float.... | 4.50 | 32x4 | 32x4 | Opt.... | S-E.... | Warner..... | | Plain 3.. | B.&P.. | B.&R.. | Roller.. | American.....C |
| Durston..... | Unit E. | 3 | Sp. B... | Springs.. | Salisbury | Float.... | 4.50 | 33x4 | 33x4 | Opt.... | S-E.... | Gemmer.... | Stewart.... | Plain 4.. | B.&P.. | B.&R.. | Roller.. | Anderson.....S-40 |
| Own..... | Amid.. | 3 | Sp. B... | Springs.. | Own..... | Semi-F.. | 4.25 | 34x4½ | 34x4½ | Opt.... | ¾-Ell.. | Own..... | Van Sicklen. | Plain 3.. | Roller.. | Roller.. | Roller.. | Apperson.....8-21 |
| Grant-Lees.. | Unit E. | 3 | Sp. B... | Tor-A.... | ..... | Float.... | 4.75 | 33x4 | 33x4 | Wood.. | S-E.... | Jacox..... | Stewart.... | Plain 4.. | Ball... | Ball... | Roller.. | Auburn.....6-39 |
| Muncie..... | Unit E. | 3 | Sp. B... | Springs.. | Salisbury | ¾ Float. | 4.50 | 33x4½ | 33x4½ | Wood.. | S-E.... | Lavine..... | Stewart.... | Ball 3.. | Ball.... | Roller.. | Roller.. | Bour-Davis.....21-S |
| Own..... | Unit T. | 3 | Sp. B... | Tor-T.... | Own..... | Float.... | 4.25 | 32x4½ | 32x4½ | Wood.. | Cant.... | Own..... | Stewart.... | Plain 3.. | Ball... | Ball... | Roller.. | Brewster.....91 |
| Own..... | Unit E. | 3 | Sp. B... | Springs.. | Own..... | Semi-F.. | 4.18 | 31x4 | 31x4 | Wood.. | S-E.... | Own..... | Stewart.... | Plain 3.. | B.&P.. | B.&R.. | Ball.? | Briscoe.....4-34 |
| Own..... | Unit E. | 3 | Bevel... | ..... | Own..... | Float.... | 4.08 | 33x4 | 33x4 | Wood.. | Cant.... | S.P.C..... | Stewart.... | Plain 4.. | Plain.. | Roller.. | Ball.... | Buick.....1921 |
| Own..... | Unit E. | 3 | Sp. B... | Springs.. | Timken.. | Float.... | 4.43 | 35x5 | 35x5 | Wood.. | Plat.... | Own..... | Van Sicklen. | Plain 3.. | B.&R.. | Roller.. | Roller.. | Cadillac.....59 |
| Grant-Lees.. | Unit E. | 3 | Sp. B... | Springs.. | Columbia. | ¾ Float. | 4.87 | 34x4½ | 34x4½ | Wood.. | S-E.... | Jacox..... | Van Sicklen. | Plain 3.. | Ball... | Roller.. | Roller.. | Case.....V |
| Own..... | Unit E. | 3 | Sp. B... | Springs.. | ..... | Semi-F.. | 4.75 | 32x4 | 32x4 | Wood.. | S-E.... | Own..... | | Plain.... | B.&R.. | Roller.. | Roller.. | Chalmers.....6-30 |
| Own..... | Unit E. | 3 | Sp. B... | Springs.. | ..... | Semi-F.. | 5.18 | 33x4½ | 33x4½ | Wood.. | S-E.... | Own..... | | Plain.... | B.&R.. | Roller.. | Roller.. | Chalmers.....6-30 |
| Grant-Lees.. | ..... | 3 | Bevel... | ..... | Columbia. | Float.... | ..... | 32x3½ | 32x3½ | Wood.. | S-E.... | ..... | ..... | ..... | ..... | Roller.. | ..... | Champion.....Tourist |
| Grant-Lees.. | ..... | 3 | Bevel... | ..... | Columbia. | Float.... | ..... | 32x4 | 32x4 | Wood.. | S-E.... | ..... | ..... | ..... | ..... | ..... | Roller.. | Champion.....Special |
| Own..... | Unit E. | 3 | Sp. B... | Springs.. | Own..... | Float.... | 4.40 | 33x4 | 33x4 | Wood.. | S-E.... | C.A.S..... | Stewart.... | Plain 3.. | Ball.. | Ball... | Roller.. | Chandler..... |
| ..... | ..... | 3 | ..... | ..... | ..... | ¾ Float. | ..... | 30x3½ | 30x3½ | Wood.. | Cant.... | ..... | ..... | Plain 3.. | ..... | Roller.. | ..... | Chevrolet.....490 |
| ..... | ..... | 3 | ..... | ..... | ..... | ¾ Float. | ..... | 33x4 | 33x4 | Wood.. | S.E-S.C.. | ..... | ..... | ..... | ..... | Roller.. | Ball... | Chevrolet.....FB-50 |
| Mechanics.. | Unit E. | 3 | Sp. B... | Springs.. | Own..... | Semi-F.. | 4.45 | 32x4 | 32x4 | Wood.. | S-E.... | C.A.S..... | Van Sicklen. | Plain 3.. | Ball... | Roller.. | Roller.. | Cleveland.....40 |
| Northway... | Unit E. | 3 | Sp. B... | Springs.. | Columbia. | Float.... | 4.45 | 33x5 | 33x5 | Wood.. | S-E.... | Gemmer.... | Stewart.... | Plain 3.. | B.&P.. | Roller.. | Roller.. | Cole.....870 |
| Durston..... | Unit E. | 3 | Sp. B... | Springs.. | Timken.. | ¾ Float. | 5.10 | 32x4 | 32x4 | Wood.. | Cant.... | Gemmer.... | | Plain 4.. | Ball... | Roller.. | Roller.. | Columbia Six.....D.C |
| Munice..... | Unit E. | 3 | Sp. B... | Tor-A.... | Columbia. | ¾ Float. | 6.66 | 33x4 | 33x4 | Opt.... | Cant.... | Gemmer.... | Stewart.... | Plain 3.. | Roller.. | Roller.. | Roller.. | Comet..... |
| Muncie..... | Unit E. | 3 | Sp. B... | Springs.. | Peru..... | Float.... | 4.25 | 32x4 | 32x4 | Wood.. | S-E.... | C.A.S..... | Van Sicklen. | Plain 2.. | Plain.. | Roller.. | Ball.... | Commonwealth.....4 |
| Brown-Lipe.. | Unit E. | 3 | Sp. B... | Springs.. | Timken.. | Semi-F.. | 4.45 | 32x4 | 32x4 | Wood.. | S-E.... | Lavine..... | Stewart.... | Plain 3.. | Roller.. | Roller.. | Roller.. | Crawford.....21-6-40 |
| Covert..... | Unit E. | 3 | Sp. B... | Springs.. | Peru..... | Float.... | 4.25 | 32x3½ | 32x3½ | Opt.... | Ell..... | Ditweiler... | Stewart.... | Plain.... | Roller.. | Roller.. | Roller.. | Crow-Elkhart.....L53-56 |
| Covert..... | Unit E. | 3 | Sp. B... | Springs.. | Peru..... | Float.... | 4.25 | 33x4 | 33x4 | Opt.... | Ell..... | Ditweiler... | Stewart.... | Plain.... | Ball... | Roller.. | Roller.. | Crow-Elkhart.....H53-56 |
| Own..... | Unit E. | 3 | Sp. B... | Springs.. | Timken.. | Float.... | 4.08 | 35x5 | 35x5 | Opt.... | ¾ Ell.. | Gemmer.... | Warner.... | Plain 3.. | B.&R.. | Roller.. | Roller.. | Cunningham.....V-4 |
| Own..... | Unit E. | 3 | Sp. B... | Tor-A.... | Timken.. | Float.... | 3.50 | 34x4½ | 34x4½ | Opt.... | S-E.... | Gemmer.... | Stewart.... | Plain 3.. | Ball... | Roller.. | Roller.. | Daniels 8.....D-19 |
| Warner..... | Unit E. | 3 | Sp. B... | Tor-A.... | Timken.. | ¾ Float. | 5.90 | 33x4 | 33x4 | Wood.. | S-E.... | Warner..... | | Plain 4.. | Ball... | Roller.. | Roller.. | Davis.....51 |
| Own..... | Unit E. | 3 | Sp. B... | Tor-T.... | Own..... | Float.... | 4.16 | 32x3½ | 32x3½ | Opt.... | ¾ Ell.. | Own..... | | Plain 3.. | Roller.. | Roller.. | Roller.. | Dodge Brothers..... |
| Mechanics.. | Unit E. | 3 | Bevel... | Springs.. | Flint..... | ¾ Float. | 4.07 | 31x4 | 31x4 | Opt.... | Cant.... | S.P.C..... | Stewart.... | Plain 2.. | B.&P.. | Roller.. | Roller.. | Dort.....17-A |
| Grant-Lees.. | Unit E. | 3 | Sp. B... | Tor-T.... | ..... | Float.... | 4.72 | 32x4 | 32x4 | Opt.... | ¾ Ell.. | C.A.S..... | Van Sicklen. | Plain 2.. | Ball... | Roller.. | Roller.. | Dixie Flyer.....H-S-70 |
| Warner-Gr.. | Unit E. | 3 | Sp. B... | Springs.. | Timken.. | Semi-F.. | 3.35 | 33x5 | 33x5 | Wood.. | S-E.... | Ross..... | Van Sicklen. | Plain 7.. | Ball... | Roller.. | Roller.. | Dorris.....680 |
| Warner Gr.. | Unit E. | 3 | Sp. B... | Springs.. | Salisbury | ¾ Float. | 4.50 | 33x4 | 33x4 | Opt.... | S-E.... | Gemmer.... | Stewart.... | Plain 4.. | Ball... | B.&R.. | Roller.. | Ellcar.....7-R |
| Mechanics.. | Unit E. | 3 | Sp. B... | Springs.. | Columbia. | ¾ Float. | 5.10 | 33x4 | 33x4 | Wood.. | Cant.... | C.A.S..... | Van Sicklen. | Plain 3.. | Ball... | Ball... | Roller.. | Elgin Six.....K |
| Own..... | Unit E. | 3 | Sp. B... | Springs.. | Timken.. | Semi-F.. | 4.66 | 32x4 | 32x4 | Wood.. | S-E.... | Gemmer.... | ..... | Plain 3.. | Roller.. | Roller.. | Roller.. | Essex.....A |
| Own..... | Unit E. | 3 | Sp. B... | Tor-A.... | Peru..... | Float.... | 4.60 | 32x3½ | 32x3½ | Wood.. | Trans.. | Warner..... | ..... | Plain 2.. | B.&R.. | B.&R.. | Roller.. | Friend Four..... |
| Brown-Lipe.. | Unit E. | ..... | Sp. B... | Tor-A.... | Columbia. | ¾ Float. | 4.03 | 32x4½ | 32x4½ | Wire.. | S-E.... | Gemmer.... | ..... | Plain 3.. | Ball... | Ball... | Roller.. | Ferris..... |
| Own..... | Amid.. | 5 | Sp. B... | Springs.. | Own..... | Semi-F.. | 4.33 | 32x4 | 32x4 | Wood.. | Ell..... | Own..... | Stewart.... | Plain 7.. | Ball... | Ball... | Ball... | Franklin.....9-B |
| Own..... | Unit E. | 2 | Bevel... | R-R-T-A. | Own..... | Semi-F.. | 3.63 | 30x3 | 30x3½ | Wood.. | S-E.... | Own..... | | Plain 3.. | Plain.. | Roller.. | B.&R.. | Ford.....T |
| Mechanics.. | Unit E. | 3 | Bevel... | Springs.. | Flint..... | ¾ Float. | 4.41 | 32x3½ | 32x3½ | Wood.. | S-E.... | Ditweiler... | Stewart.... | Plain 2.. | Roller.. | B.&R.. | Roller.. | Gardner.....G |
| Durston..... | Unit E. | 3 | Sp. B... | Springs.. | Columbia. | ¾ Float. | 4.66 | 32x4 | 32x4 | Wood.. | S-E.... | Jacox..... | Van Sicklen. | Plain 3.. | Plain.. | Roller.. | Roller.. | Grant.....HX |
| ..... | Unit E. | 3 | Sp. B... | Springs.. | Eaton.... | Semi-F.. | 4.90 | 32x4 | 32x4 | Wood.. | S-E.... | Gemmer.... | ..... | ..... | ..... | ..... | ..... | Globe.....B-10 |
| Detroit..... | Unit E. | 3 | Sp. B... | Springs.. | Timken.. | ¾ Float. | 4.66 | 32x4 | 32x4 | Wood.. | S-E.... | Gemmer.... | Stewart.... | Plain 4.. | Ball... | Roller.. | Roller.. | Hanson.....60 |
| Grant-Lees.. | Unit E. | 3 | Bevel... | Springs.. | Adams... | ¾ Float. | 4.00 | 30x3½ | 30x3½ | Wood.. | Cant.... | Gemmer.... | Stewart.... | Plain 3.. | Ball... | B.&R.. | Roller.. | Harroun.....A-A-2 |
| Grant-Lees.. | Unit E. | 3 | ..... | ..... | ..... | ¾ Float. | ..... | 33x4 | 33x4 | Wood.. | ¾ Ell.. | Ditweiler... | Stewart.... | Ball-2.. | ..... | Roller.. | Roller.. | Halladay.....21 |
| Grant-Lees.. | Unit E. | 3 | Sp. B... | Springs.. | Columbia. | ¾ Float. | 4.63 | 32x4 | 32x4 | Wood.. | S-E.... | Gemmer.... | Stewart.... | Plain 2.. | Ball... | Roller.. | Roller.. | Hatfield.....A-42 |
| Own..... | Unit E. | 3 | Sp. B... | Springs.. | Own..... | ¾ Float. | 4.77 | 34x4½ | 34x4½ | Wood.. | S-E.... | Jacox..... | Stewart.... | Plain 3.. | B.&R.. | Ball... | Ball... | Haynes.....47 |
| Warner Gr.. | Unit E. | 3 | Sp. B... | Tor-A.... | Own..... | ¾ Float. | ..... | 32x4½ | 32x4½ | Wire.. | S-E.... | Gemmer.... | ..... | Plain 3.. | Ball... | B.&R.. | Roller.. | H. C. S.....Series 3 |
| Brown-Lipe.. | Unit E. | 3 | Sp. B... | Springs.. | Timken.. | Semi-F.. | 4.90 | 34x4½ | 34x4½ | Wood.. | Ell..... | Gemmer.... | Van Sicklen. | Plain 7.. | B.&R.. | Roller.. | Roller.. | Holmes.....Series 4 |
| Own..... | Amid.. | 3 | Sp. B... | Springs.. | Timken.. | Semi-F.. | 4.90 | 34x4½ | 34x4½ | Wood.. | S-E.... | Gemmer.... | Stewart.... | Plain 4.. | Roller.. | Roller.. | Roller.. | Hudson Super Six.....O |
| Own..... | Unit E. | 3 | Sp. B... | Springs.. | Own..... | ¾ Float. | 4.87 | 32x4 | 32x4 | Wood.. | S-E.... | Jacox..... | ..... | Plain 3.. | B.R.P.. | B.&R.. | Ball... | Hupmobile.....R |
| Covert..... | Unit E. | 3 | Sp. B... | Springs.. | Salisbury | ¾ Float. | 4.75 | 32x4½ | 32x4½ | Steel.... | S-E.... | Own..... | | Plain 4.. | Ball... | Roller.. | Roller.. | Jackson.....6-38 |
| Detroit..... | Unit E. | 3 | Sp. B... | Springs.. | Timken.. | Semi-F.. | 4.66 | 32x4 | 32x4 | Wood.. | S-E.... | Gemmer.... | Van Sicklen. | Plain 4.. | B.&P.. | Roller.. | Roller.. | Jordan.....M |
| Brown-Lipe.. | Amid... | 3 | Sp. B... | Springs.. | Columbia. | ¾ Float. | 4.08 | 32x4½ | 32x4½ | Opt.... | S-E.... | Ross..... | Warner.... | Plain.... | Ball... | Roller.. | Roller.. | Kenworthy.....890 |
| Own..... | Unit E. | 3 | Bevel... | Tor-A.... | Columbia. | Float.... | 4.87 | 32x4½ | 32x4½ | Wood.. | Cant.... | Jacox..... | | Plain 3.. | B.&R.. | Roller.. | Roller.. | King.....H |
| Warner Gr.. | Unit E. | 3 | Sp. B... | Springs.. | Own..... | Float.... | 4.25 | 32x4½ | 32x4½ | Wire.. | S-E.... | Jacox..... | Stewart.... | Plain 3.. | B.&P.. | Roller.. | Roller.. | Kissel Custom Built..... |
| Grant-Lees.. | Unit E. | 3 | Sp. B... | Springs.. | Stanpar.. | Semi-F.. | 4.56 | 33x4 | 33x4 | Wood.. | ¾ Ell.. | Wholrab.... | Stewart.... | Plain 4.. | Ball... | Roller.. | Roller.. | Kline Kar.....6-55-K |
| Own..... | Unit E. | 3 | Sp. B... | Tor-T.... | Own..... | Float.... | 4.50 | 33x5 | 33x5 | Wood.. | S-E.... | Own..... | Waltham.. | Plain 5.. | B.&R.. | Roller.. | Roller.. | LaFayette.....134 |
| Warner Gr.. | Unit E. | 3 | Sp. B... | Springs.. | Own..... | ¾ Float. | 4.62 | 32x4 | 32x4 | Opt.... | S-E.... | C.A.S..... | Stewart.... | Plain 4.. | B.&R.. | Ball... | Ball... | Lexington.....Series S |
| Warner Gr.. | Unit E. | 3 | Sp. B... | Springs.. | Own..... | ¾ Float. | 4.62 | 32x4½ | 32x4½ | Wood.. | S-E.... | C.A.S..... | Stewart.... | Plain 3.. | B.&R.. | Ball... | Ball... | Lexington.....Series T |
| Detroit..... | Unit E. | ..... | Sp. B... | Springs.. | Timken.. | Semi-F.. | ..... | 32x4 | 32x4 | Wood.. | S-E.... | Gemmer.... | Stewart.... | Plain 4.. | Ball... | Roller.. | Roller.. | Liberty..... |
| Own..... | Amid.. | 4 | Sp. B... | R-R-T-A. | Own..... | Float.... | 3.87 | 35x5 | 35x5 | Wood.. | ¾ Ell.. | Own..... | Stewart.... | Plain 7.. | Ball... | Ball... | Roller.. | Locomobile.....48 |
| Munice..... | Unit E. | 3 | Sp. B... | Springs.. | Columbia. | ¾ Float. | 4.63 | 32x4 | 32x4 | Wood.. | S-E.... | Ditweiler... | Van Sicklen. | Plain 2.. | ..... | Roller.. | Roller.. | Lorraine.....21-T |
| Own..... | Unit E. | 3 | Sp. B... | Tor-T.... | Timken.. | Float.... | 4.45 | 33x5 | 33x5 | Opt.... | S-E.... | Own..... | | Plain 5.. | B.&R.. | Roller.. | Roller.. | Lincoln..... |
| Munice..... | Unit E. | 3 | Sp. B... | Springs.. | Peru..... | Float.... | 4.50 | 32x3½ | 32x3½ | Wood.. | S-E.... | Jacox..... | Stewart.... | Plain 3.. | Ball... | Roller.. | Roller.. | Maibohn.....B |
| Own..... | Amid.. | ..... | Sp. B... | Springs.. | Stanpar.. | ¾ Float. | 3.92 | 32x4½ | 32x4½ | Wire.. | Ell..... | Gemmer.... | Warner.... | Plain 4.. | Ball... | Roller.. | Roller.. | Meteor.....R&RR |
| Own..... | Unit T. | 3 | Sp. B... | Tor-T.... | Own..... | ¾ Float. | 3.75 | 33x5 | 33x5 | Wire.. | Trans.. | Own..... | Van Sicklen. | Plain 3.. | B.R.P.. | B.&R.. | Roller.. | Marmon.....34 |
| Own..... | Unit E. | 3 | Bevel... | Springs.. | Own..... | ¾ Float. | ..... | 30x3½ | 30x3½ | Wood.. | S-E.... | Own..... | ..... | Plain 2.. | Roller.. | Roller.. | Ball... | Maxwell.....25 |
| Brown-Lipe.. | Amid.. | 3 | Sp. B... | Tor-A.... | Timken.. | Float.... | 3.50 | 33x5 | 33x5 | Opt.... | S-E.... | Warner.... | Stewart.... | Plain 4.. | Roller.. | Roller.. | Roller.. | McFarlan.....1921 |
| Own..... | Amid.. | 4 | Sp. B... | Springs.. | Own..... | Float.... | 3.22 | 32x4½ | 32x4½ | Opt.... | S-E.... | Gemmer.... | Stewart.... | Plain 3.. | Roller.. | B.&R.. | Roller.. | Mercer..... |
| Brown-Lipe.. | Unit E. | 3 | Sp. B... | Springs.. | Timken.. | ¾ Float. | 4.67 | 32x4 | 32x4 | Wood.. | S-E.... | Own..... | ..... | Plain 3.. | Roller.. | Roller.. | Roller.. | Metz Master Six..... |
| .. | Amid.. | 3 | ..... | Tor-T.... | Own..... | Float.... | 4.41 | 33x4 | 33x4 | Wood.. | Cant.... | ..... | ..... | Plain 3.. | B.&R.. | B.&R.. | Roller.. | Mitchell..... |
| Warner..... | Unit E. | 3 | Sp. B... | Springs.. | Timken.. | Semi-F.. | 4.66 | 32x4 | 32x4 | Opt.... | S-E.... | Warner..... | Stewart.... | Plain 4.. | Ball... | Roller.. | Roller.. | Moon.....6-48-21 |
| Own..... | Unit E. | 3 | Sp. B... | Springs.. | ..... | Semi-F.. | 4.50 | 33x4 | 33x4 | Wood.. | S-E.... | Gemmer.... | Stewart.... | Plain 3.. | P.&R.. | Roller.. | Roller.. | Nash.....681 |
| Brown-Lipe.. | Unit E. | 3 | Sp. B... | Tor-A.... | Columbia. | Float.... | 4.03 | 32x4½ | 32x4½ | Wood.. | S-E.... | Warner..... | Warner.... | Plain 3.. | B.&R.. | Roller.. | Roller.. | National.....Sextet BB |
| Muncie..... | Unit E. | 3 | Bevel... | Springs.. | West-M.. | Float.... | 4.50 | 32x4 | 32x4 | Wood.. | S-E.... | Jacox..... | Stewart.... | Plain 3.. | Ball... | B.&R.. | Ball... | Oakland.....34-C |
| Warner..... | Unit E. | 3 | Sp. B... | Tor-T.... | Own..... | Semi-F.. | 4.66 | 32x4 | 32x4 | Wood.. | S-E.... | Jacox..... | Stewart.... | Plain 3.. | Ball... | Roller.. | Ball... | Oldsmobile.....43-A |
| Own..... | Unit E. | 5 | Sp. B... | Springs.. | Own..... | ¾ Float. | 4.50 | 30x3½ | 30x3½ | Wood.. | Cant.... | Own..... | Stewart.... | Plain 3.. | B.&R.. | Ball... | Roller.. | Overland.....4 |

**Splash-Pr**—Splash Pressure; **Spur**—Spur Gears; **T**—T-Head; **Ther**—Thermo-Syphon; **Tor-A**—Torsion Arm; **Tor-T**—Torsion Tube; **Trans**—Transverse; **Unit-E**—Unit with Engine; **Unit-T**—Unit with Torque Tube; **Unit-A**—Unit with Axle. **EQUIPMENT—At Kent**—Atwater Kent; **Conn**—Connecticut; **G. & D.**—Gray & Davis; **Hersh-Sp**—Herschell-Spillman; **Leece-N**—Leece-Neville; **Roc-Dues**—Rochester Duesenberg; **S. P. C.**—Saginaw Products Co.; **West-M**—Weston-Mott.

# 1921 Passenger Automobiles Listed with

| MAKE AND MODEL | Wheelbase | Number of Cylinders | Bore and Stroke | Piston Displacement | Make of Engine | Cylinder Shape | Cam-shaft Drive | Water Circu-lation | LUBRICATION | | CARBURETION | | IGNITION | | | ELECTRIC SYSTEM | | CLUTCH | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | System | Type of Pump | Make of Carbu-retor | Fuel Feed | Sys-tem | Make | Con-trol | Generator Make | Voltage | Make | Type |
| Packard.....Single Six | 116 | 6 | 3⅜x4½ | 241.6 | Own | L | Chain | Pump | Pressure | Gear | Own | Vacuum | Single | Delco | Auto | At-Kent | 6 | Own | Disk |
| Packard.....Twin Six | 136 | 12 | 3 x5 | 424.1 | Own | L | Chain | Pump | Pressure | Gear | Own | Pressure | Single | Delco | Auto | Bijur | 6 | Own | Disk |
| Paige.....6-42 | 119 | 6 | 3¼x5 | 248.9 | Own | L | Helical | Pump | Splash-Pr | Gear | Stromberg | Vacuum | Single | At-Kent | H. & A | G. & D | 6 | Borg & Beck | Plate |
| Paige.....6-66 | 131 | 6 | 3¾x5 | 331.4 | Continental | L | Helical | Pump | Splash-Pr | Gear | Rayfield | Vacuum | Single | At-Kent | H. & A | G. & D | 6 | Borg & Beck | Plate |
| Paterson.....650 | 120 | 6 | 3½x4½ | 224.0 | Continental | L | Helical | Pump | Pressure | Gear | Stromberg | Vacuum | Single | Delco | Hand | Delco | 6 | Borg & Beck | Plate |
| Peerless..... | 125 | 8 | 3½x5 | 331.8 | Own | L | Helical | Pump | Pressure | Gear | Ball & Ball | Vacuum | Single | At-Kent | H. & A | Auto-Lite | 6 | Own | Disk |
| Piedmont.....4-30 | 116 | 4 | 3½x5 | 192.4 | Lycoming | L | Helical | Ther | Splash-Pr | Piston | Ball & Ball | Vacuum | Single | Delco | Hand | Dyneto | 6 | Borg & Beck | Plate |
| Piedmont.....6-40 | 122 | 6 | 3¼x4½ | 224.0 | Continental | L | Helical | Pump | Splash-Pr | Piston | Stromberg | Vacuum | Single | Remy | Hand | Remy | 6 | Borg & Beck | Plate |
| Pierce-Arrow..... | 138 | 6 | 4 x5½ | 414.7 | Own | T | Helical | Pump | Pressure | Gear | Stromberg | Pressure | Single | Delco | H. & A | Delco | 6 | Own | Disk |
| Pan.....A | 108 | 4 | 3¼x5 | 165.9 | Own | I | Chain | Ther | Circ-Sp | Piston | Rayfield | Vacuum | Single | Westinghouse | Hand | Westinghouse | 6 | Borg & Beck | Plate |
| Pan American...E-6-55 | 121 | 6 | 3¼x5 | 414.7 | Hersh-Sp | L | Helical | Pump | Splash-Pr | Gear | Rayfield | Vacuum | Single | Westinghouse | Hand | Westinghouse | 6 | Borg & Beck | Plate |
| Pilot.....6-50 | 126 | 6 | 3¼x5 | 248.9 | Hersh-Sp | L | Helical | Pump | Splash-Pr | Gear | Tillotson | Vacuum | Single | Conn | Hand | Bijur | 6 | Borg & Beck | Plate |
| Porter.....46 | 142 | 4 | 4¾x6¾ | 478.4 | Own | I | Helical | Pump | Splash-Pr | Piston | Zenith | Pressure | Single | Berling | Hand | Westinghouse | 12 | M. & E | Disk |
| Premier.....6-D | 126¾ | 6 | 3⅜x5½ | 295.3 | Own | I | Helical | Pump | Splash-Pr | Gear | Johnson | Vacuum | Single | Delco | Hand | Delco | 6 | Borg & Beck | Plate |
| Premo Car.....6-13-A | 117 | 6 | 3½x4¼ | 195.6 | Falls | I | Helical | Ther | Splash-Pr | | Zenith | Vacuum | Single | Conn | | Dyneto | | Borg & Beck | Plate |
| Raleigh..... | 117 | 6 | 3¼x5 | | Hersh-Sp | L | Helical | Pump | Splash-Pr | | Stromberg | | Single | Bosch | Hand | Westinghouse | 6 | | Plate |
| Ranger..... | 116 | 4 | 3½x5 | 178.9 | Own | I | Helical | Ther | Splash-Pr | Gear | Zenith | Gravity | Single | Conn | Hand | Bijur | 6 | Borg & Beck | Plate |
| Reo.....T-6 | 120 | 6 | 3⅞x5 | 239.4 | Own | F | Helical | Pump | Circ-Sp | Eccen-tric | Rayfield | Vacuum | Dual | Northeast | Hand | Northeast | 6 | Own | Plate |
| Reamer.....6-51-D | 130 | 6 | 3½x5¼ | 303.1 | Continental | F | Spur | Pump | Splash-Pr | Piston | Stromberg | Vacuum | Single | Bosch | Hand | Bijur | 6 | Borg & Beck | Plate |
| Rock Falls.....14000 | 136 | 6 | 3¾x5 | 331.4 | Continental | L | Helical | Pump | Splash-Pr | Gear | Rayfield | Vacuum | Single | Bosch | Hand | Westinghouse | 6 | Borg & Beck | Plate |
| R. & V. Knight.....J | 127 | 6 | 3½x4½ | 259.8 | Own | K | Chain | Ther | Pressure | Gear | Stromberg | Vacuum | Single | Wagner | Hand | Wagner | 6 | Borg & Beck | Plate |
| R. & V. Knight.....R | 116 | 4 | 3¾x5 | 220.9 | Own | K | Chain | Ther | Pressure | Gear | Stromberg | Vacuum | Single | Wagner | Hand | Wagner | 6 | Borg & Beck | Plate |
| Saxon.....125 | 112 | 4 | 3⅜x5 | 178.9 | Root & Van | I | Helical | Ther | Pressure | | Stromberg | Vacuum | Single | Wagner | H. & A | Wagner | 6 | Detlaff | Disk |
| Sayers Six.....D.P. | 118 | 6 | 3½x4½ | 224.0 | Continental | L | Helical | Pump | Splash-Pr | Gear | Stromberg | Vacuum | Single | Delco | Hand | Delco | 6 | Borg & Beck | Plate |
| Scripps Booth.....B-39 | 115 | 6 | 2½x3¾ | 177.0 | Northway | F | Helical | Pump | Pressure | Gear | Marvel | Vacuum | Single | | Hand | Remy | 6 | | Cone |
| Seneca..... | 108 | 4 | 3½x4½ | 138.1 | Le Roi | L | Helical | Ther | Splash-Pr | | Schebler | Vacuum | Single | Conn | Hand | Allis-Chalm | 6 | Borg & Beck | Plate |
| Skelton.....35 | 112 | 4 | 3½x5 | 192.4 | Lycoming | L | Helical | Ther | Circ-Sp | Piston | Carter | Vacuum | Single | Conn | Hand | Westinghouse | 6 | Borg & Beck | Plate |
| Standard.....I | 127 | 8 | 3½x5 | 331.8 | Own | L | Helical | Pump | Pressure | Gear | Zenith | Vacuum | Double | At-Kent | Hand | Westinghouse | 6 | Borg & Beck | Plate |
| Stevens-Duryea.....E | 138 | 6 | 4 ¼x5½ | 510.4 | Own | L | Helical | Pump | Splash-Pr | Gear | Stromberg | Vacuum | Dual | Berling | Hand | Westinghouse | 6 | Own | Disk |
| Stearns-Knight...SKL-4 | 125 | 4 | 3¾x5⅝ | 248.5 | Own | K | Chain | Pump | Pressure | Gear | Schebler | Vacuum | Single | At Kent | Hand | Westinghouse | 12 | Own | Disk |
| Stephens.....90 | 122 | 6 | 3¼x4½ | 224.0 | Own | I | Helical | Ther | Pressure | Gear | Tillotson | Vacuum | Single | Conn | Hand | Auto-Lite | 6 | Borg & Beck | Plate |
| Studebaker.....Big 6 | 126 | 6 | 3⅞x5 | 353.8 | Own | L | Helical | Pump | Splash-Pr | Gear | Ball & Ball | Vacuum | Single | Wagner | Hand | Wagner | 6 | Own | Cone |
| Studebaker.....Spec. 6 | 119 | 6 | 3½x5 | 288.6 | Own | L | Helical | Pump | Splash-Pr | Gear | Stromberg | Vacuum | Single | Wagner | Hand | Wagner | 6 | Own | Cone |
| Studebaker.....EJ | 112 | 6 | 3¼x4½ | 207.1 | Own | L | Chain | Pump | Splash-Pr | Gear | Stromberg | Vacuum | Single | Wag. & Rem | Auto | Wag. & Rem | 6 | Own | Plate |
| Stutz.....K & H | 130 | 4 | 4⅝x6 | 360.8 | Own | T | Helical | Pump | Pressure | Gear | Stromberg | Pressure | Dual | Delco | Hand | Remy | 6 | Own | Disk |
| Templar.....445 | 118 | 4 | 3⅜x5½ | 196.8 | Own | I | Chain | Pump | Pressure | Gear | Stromberg | Vacuum | Single | Simms | Hand | Bijur | 6 | Borg & Beck | Plate |
| Tulsa..... | 117½ | 4 | 3½x5 | 192.4 | Hersh-Sp | L | Helical | Ther | Splash-Pr | Gear | Zenith | Vacuum | Single | Conn | Hand | Dyneto | 6 | Borg & Beck | Plate |
| Velie.....34 | 112 | 6 | 3⅛x4¼ | 195.6 | Falls | I | Helical | Ther | Circ-Sp | Gear | Stromberg | Vacuum | Dual | At-Kent | H. & A | Westinghouse | 6 | Borg & Beck | Plate |
| Velie.....48 | 115 | 6 | 3¼x4½ | 224.0 | Continental | L | Helical | Pump | Splash-Pr | Gear | Stromberg | Vacuum | Dual | At-Kent | H. & A | Bijur | 6 | Borg & Beck | Plate |
| Westcott.....C-38 | 118 | 6 | 3¼x4½ | 224.0 | Continental | L | Helical | Pump | Pressure | Gear | Rayfield | Vacuum | Single | Delco | H. & A | Delco | 6 | Borg & Beck | Plate |
| Westcott.....C-48 | 125 | 6 | 3½x5¼ | 303.1 | Continental | L | Helical | Pump | Splash-Pr | Gear | Rayfield | Vacuum | Single | Delco | H. & A | Delco | 6 | Warner Gr | Plate |
| Willys-Knight.....20 | 118 | 4 | 3½x4½ | 185.8 | Own | | Chain | Ther | Circ-Sp | Gear | Tillotson | | Single | Conn | Hand | Auto-Lite | 6 | Own | Plate |
| Winton.....25 | 132 | 6 | 3¾x5¼ | 347.9 | Own | L | Chain | Pump | Pressure | Gear | Stromberg | Vacuum | Single | | Hand | Bijur | 6 | | Disk |
| Wasp..... | 132 | 4 | 4¼x5½ | 389.9 | Wisconsin | T | Spur | Pump | Splash-Pr | Gear | Stromberg | Vacuum | Dual | Bosch | Hand | Westinghouse | 6 | M. & E | Plate |

**ABBREVIATIONS**—¾ **Ell**—¾ Elliptic; ¾ **Float**—¾ Floating; **Amid**—Amidships; **Auto**—Automatic; **B & P**—Ball and Plain; **B & R**—Ball and Roller; **B R & P**—Ball, Roller and Plain; **Cant**—Cantilever; **Circ-Spl**—Circulating Splash; **Ell**—Elliptic; **F**—I Valve in Head, 1 in Side; **Float**—Floating; **Fric**—Friction; **Gear**—Gear Pump; **H & A**—Hand and Automatic; **H**—Valves horizontal in side; **I**—I-Head; **K**—Knight Type; **L**—L-Head; **Opt**—Optional; **Plat**—Platform; **S-E**—Semi-Elliptic; **Semi-F**—Semi-Floating; **Sp. B**—Spiral Bevel;

# Specifications of the 1921 Model Motorcycles

| Name and Model | Cylinder Arrangement | No. of Cylinders, Bore and Stroke | Piston Displacement | Cycle Type | Ignition | H. P. | Speeds | Gear Ratio on High | Clutch | W. B. | Tire Size, Inches | Road Clearance | Height of Saddle | Lighting System | No. Brakes and Location | Weight, Empty | Weight, Loaded | Normal Speed on High | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cleveland 1921 | VT | 1-2¾x2¾ | .... | 2 | Bosch* | 3½ | 2 | 6.20 | O-Disk | 56 | 26x3 | 4 | 28 | None | 1 Ext. | 180 | 200 | .... | $275 |
| Excelsior—Series 20 | Ve | 2-3 1/64x3½ | 61.0 | 4 | Simms | 15 | 3 | 4.13 | D-Disk | 59 | 28x3 | .... | 30 | Split. | 2 I & E. | 361 | 387 | 65 | 485 |
| Harley-Davidson—21F | Ve | 2-3 5/16x3½ | 60.3 | 4 | Bosch | 16 | 3 | 4.34 | D-Disk | 60 | 28x3 | 5 | 30 | None | 1 Int.* | 340 | 365 | 65 | 450 |
| Harley-Davidson—21J | Ve | 2-3 5/16x3½ | 60.3 | 4 | Own | 16 | 3 | 4.34 | D-Disk | 60 | 28x3 | 5 | 30 | Own | 1 Int.* | 360 | 385 | 65 | 485 |
| Harley-Davidson—21W | Op. | 2-2¾x3 | 35.6 | 4 | Bosch | 8 | 3 | 5.00 | O-Disk | 54 | 28x3 | 5 | 28 | None | 1 Ext.* | 260 | 280 | 55 | 415 |
| Harley-Davidson—21WJ | Op. | 2-2¾x3 | 35.6 | 4 | Own | 8 | 3 | 5.00 | O-Disk | 54 | 28x3 | 5 | 28 | Own | 1 Ext.* | 280 | 300 | 55 | 445 |
| Harley-Davidson—21FD | Ve | 2-3 7/16x4 | 74.2 | 4 | Bosch | 19 | 3 | 4.34 | D-Disk | 60 | 28x3 | 5 | 30 | None | 1 Int.* | 345 | 370 | 70 | 485 |
| Harley-Davidson—21JD | Ve | 2-3 7/16x4 | 74.2 | 4 | Own | 19 | 3 | 4.34 | D-Disk | 60 | 28x3 | 5 | 30 | Own | 1 Int.* | 365 | 390 | 70 | 520 |
| Henderson—K1921 | VT. | 4-2 1/16x3½ | 79.0 | 4 | Simms | 16 | {3 F 1 R} | 3.49 | O-Disk | 60 | 27x3½ | 5¼ | 29 | Split. | 2 I & E. | 392 | 421 | 65 | 600 |
| Indian—G21 | Ve | 2-2¾x3 1/16 | 36.3 | 4 | Split. | 11 | 3 | 4.88 | O-Disk | 54 | 26x3 | 4¾ | 28 | Split. | 1 Int. | .... | 295 | 55 | 440 |
| Indian—N21 | Ve | 2-3⅛x3 31/32 | 60.8 | 4 | Split. | 15 | 3 | 4.24 | D-Disk | 59 | 28x3 | 6¼ | 32 | Split. | 2 I. & E | .... | 376 | 65 | 480 |
| Iver Johnson—16-7-T-S | Ve | 2-3¼x3¾ | 62.2 | 4 | Bosch | 8 | 2 | 3.75 | Hub | 58 | 28x3 | 5 | 29 | None | 1 Ext. | .... | 260 | .... | 320 |
| Iver Johnson—16-7 | Ve | 2-3¼x3¾ | 62.2 | 4 | Bosch | 8 | 1 | 4.25 | Hub | 58 | 28x3 | 5 | 29 | None | 1 Ext. | .... | 260 | .... | 290 |
| Iver Johnson—16-4-C-T-S | VT. | 1-3¼x3¾ | 32.1 | 4 | Bosch | 5 | 2 | 3.75 | Hub | 58 | 28x3 | 5 | 29 | None | 1 Ext. | .... | 220 | .... | 250 |
| Iver Johnson—16-4C | VT. | 1-3¼x3¾ | 32.1 | 4 | Bosch | 5 | 1 | 4.25 | Hub | 58 | 28x3 | 5 | 29 | None | 1 Ext. | .... | 220 | .... | 225 |
| Iver Johnson—16-4-B | VT. | 1-3¼x3¾ | 32.1 | 4 | Bosch | 5 | 1 | .... | Cone† | 58 | 28x2½ | 5 | 31 | None | Hub | .... | 215 | .... | 200 |
| Reading Standard—21T | Ve | 2-3⅜x4 | 71.5 | 4 | Bosch* | 16 | 3 | 3.91 | D-Disk | 58 | 28x3 | 5½ | 31 | None | 2 I & E. | 343 | .... | .... | 435 |
| Reading Standard—21TE | Ve | 2-3⅜x4 | 71.5 | 4 | Bosch* | 16 | 3 | 3.91 | D-Disk | 58 | 28x3 | 5½ | 31 | Split. | 2 I & E. | 366 | .... | .... | 475 |

*Other options. †Belt Drive.

# Their Technical Specifications—Continued

| TRANSMISSION | | | | | | | | RUNNING GEAR | | | | | | | BEARINGS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GEARSET | | | Final Drive | Torque Taken By | Make of Rear Axle | Rear Axle Type | Gear Ratio on Direct | TIRES | | Wheels | Rear Springs | Make of Steering Gear | Make of Speedometer | Crankshaft Bearings and No. | Gear Set | Rear Axle | Front Wheel | MAKE AND MODEL |
| Make | Location. | Speeds | | | | | | Front | Rear | | | | | | | | | |
| Own | Unit E. | 3 | Sp. B. | Springs. | Timken | Semi-F. | 4.30 | 33x4½ | 33x4½ | Wood | S-E. | Own | Stewart | Plain 7. | Ball. | Roller. | Roller. | Packard. . . Single Six |
| Own | Unit E. | 3 | Sp. B. | Springs. | Own | Semi-F. | 4.36 | 35x5 | 35x5 | Wood | S-E. | Own | Waltham | Plain 3. | Ball. | Ball. | Roller. | Packard. . . . . Twin Six |
| Own | Unit E. | 3 | Sp. B. | Springs. | Salisbury | ¾ Float. | 4.75 | 32x4 | 32x4 | Wood | S-E. | Jacox | Stewart | Plain 3. | B.&R. | B.&R. | Roller. | Paige. . . . . 6-42 |
| Own | Unit E. | 3 | Sp. B. | Springs. | Salisbury | ¾ Float. | 4.55 | 35x4½ | 33x4½ | Wood | S-E. | Jacox | Stewart | Plain 4. | B.&R. | B.&R. | Roller. | Paige. . . . . 6-66 |
| Durston | Unit E. | 3 | Sp. B. | Springs. | S-P & Sal. | S-F & F. | 4.50 | 33x4 | 33x4 | | S-E. | Jacox | Stewart | 4 | | | | Paterson. . . . . 650 |
| Own | Unit E. | 3 | Sp. B. | Springs. | Own | ¾ Float. | 4.90 | 34x4½ | 34x4½ | Wood | Plat | Gemmer | Van Sicklen. | Plain 3. | Ball. | B.&R. | Roller. | Peerless. . . . . |
| Grant-Lees | Unit E. | 3 | Sp. B. | Springs. | | Float | 4.50 | 32x3½ | 32x3½ | Wood | S-E. | Ditweiler | Stewart | Plain 3. | Roller. | Roller. | Roller. | Piedmont. . . . . 4-30 |
| Grant-Lees | Unit E. | 3 | Sp. B. | Springs. | Spacke | ¾ Float. | 4.50 | 32x4 | 32x4 | Wood | S-E. | Lavine | Stewart | Plain 3. | Roller. | Roller. | Roller. | Piedmont. . . . . 6-40 |
| Own | Amid. | 3 | Sp. B. | Tor-A. | Own | Semi-F. | 4.28 | 35x5 | 35x5 | Wood | S-E. | Own | Waltham | Plain 7. | B.&P. | B.&R. | Roller. | Pierce-Arrow. . . . . |
| Own | Unit E. | 3 | T-Worm. | Springs. | Own | Semi-F. | 4.90 | 33x4 | 33x4 | Wood | S-E. | Gemmer | Stewart | Ball 2. | B.&P. | Roller. | Roller. | Pan. . . . . A |
| Detroit | Unit E. | 3 | Sp. B. | Springs. | Timken | Semi-F. | 4.90 | 33x4 | 33x4 | Wood | S-E. | C.A.S. | Stewart | Plain 3. | Ball. | Roller. | Roller. | Pan American. . . . E-6-55 |
| Muncie | Unit E. | 3 | Sp. B. | Springs. | Columbia. | ¾ Float. | 4.50 | 32x4½ | 32x4½ | Wood | S-E. | Ditweiler | Stewart | Plain 3. | Ball. | Ball. | Roller. | Pilot. . . . . 6-50 |
| Own | Amid. | 4 | Sp. B. | Tor-T. | Own | Float | 3.25 | 35x5 | 35x5 | Wood | S-E. | Own | Stewart | Plain 3. | Ball. | Ball. | Ball. | Porter. . . . . 46 |
| Own | Unit E. | 3 | Sp. B. | Springs. | Stanpar. | Semi-F. | 4.50 | 33x5 | 31x5 | Wood | S-E. | Own | Stewart | Plain 3. | B.&R. | Roller. | Roller. | Premier. . . . . 6-D |
| Muncie | Unit E. | 3 | | Springs. | Timken | Semi-F. | | 32x3½ | 32x3½ | Wood | S-E. | Ditweiler | Stewart | | | | | Premocar. . . . . 6-40-A |
| | Unit E. | 3 | Sp. B. | Springs. | Spacke | Float | | 33x4 | 33x4 | | S-E. | Gemmer | Stewart | | | | | Raleigh. . . . . |
| Detroit | Unit E. | 3 | Sp. B. | Springs. | Columbia. | ¾ Float. | 4.60 | 32x4 | 32x4 | Wood | S-E. | Jacox | Stewart | Plain 3. | Ball. | Roller. | Roller. | Ranger. . . . . |
| Own | Amid. | 3 | Sp. B. | Springs. | Own | Semi-F. | 4.66 | 33x4 | 33x4 | Wood | S-E. | Own | | Plain 4. | Roller. | Roller. | Roller. | Reo. . . . . T-6 |
| Grant-Lees | Unit E. | 3 | Sp. B. | Springs. | | ¾ Float. | 3.87 | 32x4½ | 32x4½ | Wire | Cant. | Jacox | Warner | Plain 3. | Roller. | Roller. | Roller. | Roamer. . . . . 6-54-D |
| Grant-Lees | Unit E. | 3 | Sp. B. | Springs. | Columbia. | ¾ Float. | 4.87 | 35x5 | 35x5 | Wood | ¾ Ell. | Gemmer | Warner | Plain 4. | Roller. | Roller. | Roller. | Rock Falls. . . . . 14000 |
| Brown-Lipe | Unit E. | 3 | Sp. B. | Springs. | Timken | Semi-F. | 4.90 | 32x4½ | 32x4½ | Opt. | S-E. | Jacox | Stewart | Plain | B.&R. | | Roller. | R & V Knight. . . . . J |
| Brown-Lipe | Unit E. | 3 | Sp. B. | Springs. | Salisbury | Float | 4.75 | 32x4 | 32x4 | Opt. | S-E. | Jacox | Stewart | Plain 3. | B.R.P. | Plain. | Roller. | R & V Knight. . . . . R |
| Covert | Unit E. | 3 | Sp. B. | Tor-A. | Adams | Semi-F. | 4.75 | 32x4 | 32x4 | Wood | Tr. S-E. | C.A.S. | Stewart | Plain 2. | B.&R. | Roller. | Roller. | Saxon. . . . . 125 |
| Grant-Lees | Unit E. | 3 | Sp. B. | Springs. | Stanpar. | Semi-F. | 4.75 | 33x4 | 33x4 | Wood | S-E. | Lavine | Stewart | Plain 4. | Ball. | Roller. | Roller. | Sayers Six. . . . . D.P. |
| Warner | Unit E. | 3 | Sp. B. | Springs. | Central | | 4.87 | 32x4 | 32x4 | Wood | S-E. | Jacox | Stewart | Plain 3. | B.&P. | B.&R. | Ball. | Scripps-Booth. . . . . B-39 |
| Warren | Unit E. | 3 | Sp. B. | Tor-A. | Peru | Float | 4.75 | 30x3½ | 30x3½ | Wood | Cant. | Ditweiler | Stewart | Plain 2. | Ball. | Roller. | Roller. | Seneca. . . . . |
| Muncie | Unit E. | 3 | Sp. B. | Springs. | Peru | Float | 4.25 | 32x3½ | 32x3½ | Wood | S-E. | C.A.S. | Stewart | Plain 2. | Ball. | B.&R. | Roller. | Skelton. . . . . 35 |
| Grant-Lees | Unit E. | 3 | Sp. B. | Springs. | Timken | Semi-F. | 4.45 | 34x4½ | 34x4½ | Wood | S-E. | Gemmer | Stewart | Plain 3. | Ball. | Roller. | Roller. | Standard. . . . . T |
| Own | Unit E. | 3 | Sp. B. | Tor-T. | Own | Float | 3.94 | 35x5 | 35x5 | Wood | ¾ Ell. | Own | Waltham | Plain 4. | B.&P. | Ball. | Ball. | Stevens-Duryea. . . . . E |
| Own | Unit E. | 3 | Sp. B. | Tor-A. | Own | Semi-F. | 4.50 | 34x4½ | 34x4½ | Wood | Cant. | Own | | Plain 3. | B.&R. | B.&R. | Roller. | Stearns Knight. . . . SKL4 |
| Mechanics | Unit E. | 3 | Sp. B. | Springs. | Timken | Semi-F. | 4.90 | 31x4½ | 33x4½ | Wood | S-E. | C.A.S. | Stewart | Plain 3. | Ball. | Roller. | Roller. | Stephens. . . . . 90 |
| Own | Amid. | 3 | Sp. B. | Springs. | Own | Semi-F. | 5.71 | 33x4½ | 33x4½ | Wood | S-E. | Own | Van Sicklen. | Plain 4 | Roller. | Roller. | Roller. | Studebaker. . . . . Big-6 |
| Own | Amid. | | Sp. B. | Springs. | Own | Semi-F. | 4.33 | 32x4 | 32x4 | Wood | S-E. | Own | Van Sicklen. | Plain 4. | Roller. | Roller. | Roller. | Studebaker. . . . . Spec.-6 |
| Own | Amid. | 3 | Sp. B. | Springs. | Own | Semi-F. | 4.55 | 32x4 | 32x4 | Wood | S-E. | Own | Stewart | Plain 4. | Roller. | Roller. | Roller. | Studebaker. . . . . EJ |
| Own | Unit A. | 3 | Sp. B. | Tor-A. | Own | Semi-F. | 3.50 | 32x4½ | 32x4½ | Wire | S-E. | Gemmer | Stewart | Plain 3. | Ball. | B.&R. | Roller. | Stutz. . . . . K & H |
| Detroit | Unit E. | 3 | Sp. B. | Springs. | U.S. | Semi-F. | 4.40 | 32x4 | 32x4 | Wood | S-E. | Jacox | Warner | Plain 3. | B.&P. | B.&R. | Roller. | Templar. . . . . 445 |
| Muncie | Unit E. | 3 | Sp. B. | Springs. | Salisbury | Float | 4.50 | 33x4 | 33x4 | Opt. | S-E. | C.A.S. | Stewart | Plain 1. | B.&P. | B.&R. | Roller. | Tulsa. . . . . |
| Durston | Unit E. | 3 | Sp. B. | Springs. | Columbia. | ¾ Float. | 4.63 | 33x4 | 33x4 | Wood | S-E. | Gemmer | Stewart | Plain 3. | Ball. | B.&R. | Roller. | Velie. . . . . 34 |
| Durston | Unit E. | 3 | Sp. B. | Springs. | Timken | Semi-F. | 4.60 | 33x4½ | 33x4½ | Wood | ¾ E. | Gemmer | Stewart | Plain 4. | B.&P. | Roller. | Roller. | Velie. . . . . 48 |
| Warner Gr. | Unit E. | 3 | Sp. B. | Springs. | Timken | Semi-F. | 5.09 | 33x4 | 33x4 | Wood | S-E. | Gemmer | Van Sicklen. | Plain 4. | B.&R. | Roller. | Roller. | Westcott. . . . . C-38 |
| Warner Gr. | Unit E. | 3 | Sp. B. | Springs. | Timken | Semi-F. | 4.45 | 32x4½ | 32x4½ | Wood | S-E. | Gemmer | Van Sicklen. | Plain 3. | B.&R. | Roller. | Roller. | Westcott. . . . . C-48 |
| Own | Unit E. | | Sp. B. | Springs. | Own | Semi-F. | 5.00 | 33x4 | 33x4 | Wood | S-E. | Own | Warner | Plain 3. | B.&R. | Roller. | Roller. | Willys Knight. . . . . 20 |
| | Unit E. | 4 | Sp. B. | Tor-A. | | Float | 4.90 | 35x5 | 35x5 | Wood | S-E. | | Warner | Plain 4. | B.&R. | Roller. | Roller. | Winton. . . . . 25 |
| Dundore | Unit E. | 4 | Sp. B. | Tor-T. | Timken | Float | 3.70 | 33x5 | 33x5 | Wire | S-E. | Gemmer | Warner | Plain 4. | B.&R. | Roller. | Roller. | Wasp. . . . . |

**Splash-Pr**—Splash Pressure; **Spur**—Spur Gears; **T**—T-Head; **Ther**—Thermo-Syphon; **Tor-A**—Torsion Arm; **Tor-T**—Torsion Tube; **Trans**—Transverse; **Unit-E**—Unit with Engine; **Unit-T**—Unit with Torque Tube; **Unit-A**—Unit with Axle. **EQUIPMENT—At Kent**—At-water Kent; **Conn**—Connecticut; **G. & D.**—Gray & Davis; **Hersh-Sn**—Herschell-Spillman; **Leece-N**—Leece-Neville; **Roc-Dues**—Rochester Duesenberg; **S. P. C.**—Saginaw Products Co.; **West-M**—Weston-Mott.

# Freezing Points and Gravity of Alcohol Anti-freeze

THE Air Service, Engineering Division, McCook Field, Dayton, Ohio, has worked out a tabulation of freezing points and specific gravity of alcohol and water mixtures which are applicable to automobile as well as airplane practice. A number of tabulations have been gotten up by various individuals and curves printed showing freezing points. It has been noted that marked discrepancies can be found among these various tables and it is of value to have one which has the sanction of the McCook Field laboratory.

In examining various anti-freeze solutions, it was found that alcohol-water mixture gave the best results, considering temperatures at which ice crystals would form in solution, running temperature for radiator mixture, ease with which solution may by prepared by the mechanics, and cost of materials involved for producing the mixture.

It should be remembered that mixtures of alcohol and water have a much lower boiling point than water alone. For this reason, it is well to keep the water temperature below 75 deg. Cent. where possible and never allow it to reach 80 deg. for any appreciable length of time, as excessive loss of alcohol will take place very rapidly. Seventy-five deg. Cent. is 168 deg. Fahr., and 80 deg. Cent. is 176 deg. Fahr. The following tabulation gives the data for the various percentages of alcohol by volume, stating the freezing points for each:

| Percentage of Alcohol By Volume | Temperature Deg. Cent. | Temperature Deg. Fahr. |
|---|---|---|
| 0.0 | 0.0 | +32.0 |
| 2.5 | —2.0 | +28.4 |
| 5.0 | —2.8 | +27.0 |
| 7.5 | —3.2 | +26.2 |
| 10.0 | —4.0 | +24.8 |
| 12.5 | —4.7 | +23.6 |
| 15.0 | —6.0 | +21.2 |
| 17.5 | —7.1 | +19.2 |
| 20.0 | —8.5 | +16.7 |
| 22.5 | —9.5 | +14.9 |
| 25.0 | —11.5 | +11.3 |
| 27.5 | —12.9 | + 8.8 |
| 30.0 | —14.8 | + 5.4 |
| 32.5 | —16.0 | + 3.2 |
| 35.0 | —18.3 | — 0.9 |
| 37.5 | —20.0 | — 4.0 |
| 40.0 | —22.1 | — 7.8 |
| 42.5 | —24.0 | —11.2 |
| 45.0 | —26.9 | —16.4 |
| 47.5 | —28.8 | —19.8 |
| 50.0 | —31.1 | —24.0 |

# Specifications of the Electrical Equipment Found on 1921 Passenger Cars

| Make and Model | IGNITION | | | GENERATOR | MOTOR | BATTERY | | System Voltage | Wiring System | Units Combined | FUSES | | Regulation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | System | Make | Control | Make | Make | Make | Amp. Hr. | | | | Type | Amp. | |
| Ace L | Single | At-Kent | Hand | A-L | A-L | U. S. L. | 120 | 6 | 1 | GI | CB | 15 | |
| Ace G | Single | At-Kent | Hand | A-L | A-L | U. S. L. | 120 | 6 | 1 | GI | CB | 15 | |
| Allen 43 | Single | Conn | Hand | West | West | U. S. L. | 90 | 6 | 1 | GI | GT | 15 | |
| American D | Single | At-Kent | Hand | G & D | G & D | Willard | 110 | 6 | 1 | S | 3-A | 20 | 3-B |
| Andeson All | Single | Remy | Hand | Remy | Remy | Willard | 90 | 6 | 1 | S | | | |
| Apperson All | Single | Remy | Hand | Bijur | Bijur | Willard | 90 | 6 | 1 | S | Open | 10 | |
| Auburn 6-39 | Single | Remy | Hand | Remy | Remy | Willard | 90 | 6 | 1 | S | | | 3-B |
| Beggs 20-T | | Conn | Hand | A-L | A-L | Exide | 90 | 6 | 1 | GT | Cart | 15 | |
| Bour-Davis 21 | Single | West | Hand | West | West | Willard | 111 | 6 | 1 | S | GT | 15 | 3-B |
| Brewster | Single | Berling | Hand | U. S. L | U. S. L | U. S. L | 80 | 12 | 1 | GM | GT | 30 | |
| Briscoe 4-34 | Single | Conn | Hand | A-L | A-L | Prest-O-L | 80 | 6 | 1 | GI | GT | 20 | 3-B |
| Buick | Single | Delco | Hand | Delco | Delco | Willard | 100 | 6 | 1 | S | | | |
| Cadillac 59 | Single | Delco | H. & A. | Delco | Delco | Exide | 130 | 6 | 1 | GM | | | 3-B |
| Case V-20 | Single | Delco | H. & A. | West | West | Willard | 111 | 6 | 1 | GI | 5AGT | | |
| Chalmers 35-C | Single | | Hand | | | | 106 | 6 | 1 | GI | GT | 15-30 | |
| Champion KO | Single | Delco | Hand | Dyneto | Dyneto | Willard | 90 | 6 | 1 | S | GT | 200 | |
| Chandler All | Single | Bosch | Hand | G & D | G & D | Prest-O-L | 105 | 6 | 1 | S | GT | | |
| Chevrolet All | Single | Remy | Hand | A-L | A-L | Willard | 80 | 6 | 1 | GI | GT | | |
| Cleveland 40 | Single | G & D | Hand | G & D | G & D | Prest-O-L | 80 | 6 | 1 | S | GT-3A | 5 | |
| Cole All | Single | Delco | H & A | Delco | Delco | Willard | 125 | 6 | 1 | S | | | |
| Columbia All | Single | At-Kent | Hand | A-L | A-L | Prest-O-L | 80 | 6 | 1 | S | | | |
| Comet C-53 | Single | Wagner | Hand | Wagner | Wagner | Willard | 111 | 6 | 1 | | | | |
| Commonwealth 42 | Single | At-Kent | Hand | Dyneto | Dyneto | Prest-O-L | 105 | 6 | 1 | | GT | | 3-B |
| Crawford 21-6-40 | Double | At-Kent | Hand | West | West | Willard | 117 | 6 | 1 | S | GT | 15-30 | |
| Crow-Elkhart L-55 | Single | Conn | Hand | Dyneto | Dyneto | Prest-O-L | 120 | 6 | 1 | | Cart | 10 | 3-B |
| Cunningham V-4 | Single | Delco | H & A | Delco | Delco | Willard | 120 | 6 | 1 | | | | |
| Daniels 8-D | Single | Delco | H & A | Delco | Delco | Willard | 145 | 6 | 1 | S | | | 3-B |
| Davis 51 | Single | Delco | Hand | Delco | Delco | Willard | 90 | 6 | 1 | S | | | 3-B |
| Dixie Flyer H | Single | Eisemann | Hand | Dyneto | Dyneto | Willard | 90 | 6 | 2 | S | Cart | 10 | |
| Dodge Brothers | Single | Own | H & A | N. E | North East | Willard | 50 | 12 | 1 | GM | GT | 10 | 3-B |
| Dorris 6-80 | Single | Bosch | Hand | West | West | Willard | 102 | 6 | 1 | S | GT | 15 | 3-B |
| Dort 17-A | Single | Conn | Hand | West | West | U. S. L | 85 | 6 | 1 | S | | 10 | 3-B |
| Du Pont A | Single | Eisemann | H & A | West | West | Exide | 115 | 6 | 1 | S | | | |
| Economy 6-46 | Single | Own | Hand | A-L | A-L | Willard | 84 | 6 | | | | | |
| Elcar All | Single | Delco | Hand | Delco | Delco | Willard | 90 | 6 | 1 | S | GT | 20 | 3-B |
| Elgin K | Single | Wagner | Hand | West | West | Willard | 90 | 6 | 1 | | GT | 20 | 3-B |
| Essex A | Single | Delco | H & A | Delco | Delco | Exide | 100 | 6 | 1 | S | | | 3-B |
| Ferris | Single | Splitdorf | Hand | L-N | L-N | Willard | 132 | 6 | 1 | S | | | 3-B |
| Ford T | Single | Own | Hand | Own | Own | | 80 | 6 | 1 | S | | | 3-B |
| Franklin 9-B | Single | At-Kent | Auto | Dyneto | Dyneto | Willard | 67 | 12 | 2 | GM | GT | 10 | 3-B |
| Gardner G | Single | West | Hand | West | West | Willard | 90 | 6 | 1 | S | GT | 20 | 3-B |
| Geronimo | Single | Delco | Hand | Dyneto | Dyneto | Exide | 90 | 6 | 1 | S | None | | |
| Grant H | Single | At-Kent | Hand | Bijur | Bijur | Prest-O-L | 90 | 6 | 1 | S | 2GT | 15 | 3-B |
| Handley-Knight | Single | Conn | Hand | A-L | A-L | U. S. L | 162.6 | 6 | 1 | S | GT | 20-30 | |
| Hanson 54-A | Single | Delco | Hand | Delco | Delco | Prest-O-L | 100 | 6 | 2 | | | | |
| Harroun | Single | Remy | Hand | Remy | Remy | Prest-O-L | 80 | 6 | 1 | | | | |
| Harvard All | Single | Bosch | Hand | Dyneto | Dyneto | Prest-O-L | 120 | 6 | 1 | S | | | |
| Hatfield A | | Conn | | Dyneto | Dyneto | Willard | 111 | 6 | 1 | GI | | | |
| Haynes 47 | Single | Kingston | Hand | Leece-N | Leece-N | Willard | 123 | 6 | 1 | GI | GT | 5 | 3-B |
| H. C. S. Special | | Delco | Hand | Delco | Delco | Willard | 111 | | | | | | |
| Hollier 206-B | Single | West | Hand | West | West | U. S. L' | 80 | 6 | 1 | S | GT | 20 | |
| Holmes | Single | Eisemann | Auto | Dyneto | | Willard | 69 | 12 | 2 | S | GT | 15 | 3-B |
| Hudson Super-Six | Single | Delco | H & A | Delco | Delco | Exide | 100 | 6 | 1 | GM | | | 3-B |
| Huffman | Single | Conn | Hand | Dyneto | Dyneto | Willard | 90 | 6 | 1 | S | | 25 | |
| Hupmobile R | Single | At-Kent | Hand | West | West | Willard | 90 | 6 | 1 | S | Encl | 10 | |
| Jackson 6-38 | Single | Remy | Hand | A-L | A-L | U. S. L. | 94 | 6 | 1 | GI | GT | 15 | |
| Jones All | Single | Remy | Hand | A-L | A-L | Prest-O-L | 120 | 6 | 1 | GI | GT | 20 | |
| Jordan F | Single | Delco | Hand | Delco | Delco | Willard | 90 | 6 | 1 | S | C. B | | |
| Jordan M | Single | Delco | Hand | Delco | Delco | Willard | 90 | 6 | 1 | S | C. B | | |
| Kenworthy 4-80 | Single | Bosch | Hand | Bijur | Bijur | Exide | 140 | 6 | 1 | S | G. T | 15.30 | Shun |
| Kenworthy 6-55 | Single | Bosch | Hand | West | West | Exide | 140 | 6 | 1 | S | G. T. | 15.30 | 3-B |
| King 8 | Single | At-Kent | Hand | West | West | Prest-O-L | 120 | 6 | 1 | S | Cart | 10 | |
| Kissel All | Single | Remy | Hand | Remy | Remy | Willard | 111 | 6 | 1 | S | 3 A. G | 20 | 3-B |
| Kline 6-55-J | Single | Conn | Hand | Wagner | Wagner | Prest-O-L | 80 | 6 | 1 | S | 5 A. G | | |
| LaFayette | Single | Delco | H & A | Delco | Delco | Exide | 130 | 6 | 1 | GM | C. B | | 3-B |
| Leach | Double | Delco | Hand | Delco | Delco | Prest-O-L | 180 | 6 | 1 | S | Cart | 15 | |
| Lexington S-20 | Single | Conn | Hand | G. & D | G. & D. | Willard | 111 | 6 | 1 | | GT | 15-5 | |
| Liberty 10-C | Single | Wagner | Hand | Wagner | Wagner | Prest-O-L | 11.52 | 6 | 1 | GI | | | |
| Locomobile 48-6-7 | Dual | Berling | Hand | West | West | Exide | 150 | 6 | 1 | S | G. T | 10 | 3B |
| Lorraine | Single | West | Hand | West | West | U. S. L | 94 | 6 | 1 | S | GT | | |

ABBREVIATIONS: *Starting and Lighting in closed models only. Ignition: *At-K*, Atwater-Kent; *Conn.*, Connecticut; *West*, Westinghouse; *Auto*, Autom *H & A*, Hand and Automatic; *D & D*, Dual and Double; *Berl & W*, Berling Mag. and Westinghouse; *S. A.*, Semi-Automatic. Generator: *A-L*, Auto-Lite; *G & D*, Gra Davis; *Leece-N*, Leece-Neville; *Ward-L.*, Ward-Leonard; *N. E.*, North East; *Split*, Splitdorf. Motor: *A-L*, Auto-Lite; *G & D*, Gray & Davis; *Leece-N*, Leece-Neville; Westinghouse.

# Giving Ignition, Starting, Lighting, Battery, Lamp, Spark Plug and Horn Data

| LAMP CANDLEPOWER, VOLTAGE AND TYPE OF BASE | | | | | | | | | SPARK PLUGS | | | Horn | Make and Model |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Contact | Headlights Volts | Headlights CP. | Sidelights Volts | Sidelights CP. | Taillights Volts | Taillights CP. | Dashlight Volts | Dashlight CP. | Make | Diam. Inches | Thread Pitch | | |
| Sgl. & Dbl. | 6-8 | 21 | 6-8 | 4 | 6-8 | 2 | 6-8 | 2 | Champion | 7/8 | 18 | Stewart | Ace L. |
| Sgl. & Dbl. | 6-8 | 21 | 6-8 | 4 | 6-8 | 2 | 6-8 | 2 | Champion | 7/8 | 18 | Stewart | Ace G. |
| Single | 6-8 | 18 | *6-8 | 4 | 6-8 | 2 | 6-8 | 2 | Champion | 7/8 | 18 | Klaxon | Allen 43 |
| Single | 6-8 | 15 | | | 3-4 | 2 | d3-4 | 2 | Bethlehem | 7/8 | 18 | Sparton | American D |
| Single | 6-8 | 17 | | | 6-8 | 2 | 6-8 | 2 | A. C. | 7/8 | 18 | E. A. L. | Anderson All |
| Double | 6-8 | 18 | *6-8 | 4 | d6-8 | 2 | d6-8 | 2 | A. C. | 7/8 | 18 | Sparton | Apperson All |
| Single | 6-8 | 20 | 6-8 | 4 | 6-8 | 2 | 6-8 | 2 | Rajah | 7/8 | 18 | E. A. | Auburn 6-39 |
| Single | 6-8 | 21 | 6-8 | 4 | 3-4 | 2 | 3-4 | 2 | Champion | 7/8 | 18 | Trojan | Beggs 20-T |
| Single | 6-8 | 21 | 6-8 | 5 | 6-8 | 2 | 6-8 | 2 | A. C. | 7/8 | 18 | Trojan | Bour-Davis 21 |
| Single | 12 | 21 | 12 | 4 | 6-8 | 2 | d6-8 | 2 | Herz-Boug | 7/8 | 18 | Klaxon | Brewster |
| Single | 6-8 | 21 | | | 6-8 | 2 | d6-8 | 2 | Champion | 7/8 | 18 | Sparton | Briscoe 4-34 |
| Single | 6-8 | 21 | 6-8 | 4 | 6-8 | 2 | 6-8 | 2 | A. C. | 7/8 | 18 | Schwarze | Buick |
| Single | 7 | 18 | 8 | 6 | 4 | 2 | 3-4 | 2 | Titan | 7/8 | 18 | Delco | Cadillac 59 |
| Single | 6-8 | 21 | 6-8 | 4 | 6-8 | 2 | 6-8 | 2- | A. C. | 7/8 | | Klaxon | Case V-20 |
| Single | 6-8 | 15 | 6-8 | 4 | 6-8 | 2 | 6-8 | 2 | | 7/8 | 18 | | Chalmers 35-C |
| Single | 6-8 | 15 | | | 6-8 | 2 | 6-8 | 2 | A. C. | 7/8 | 18 | Garford | Champion KO |
| Single | 6-8 | 15 | 6-8 | 4 | 6-8 | 2 | 6-8 | 2 | A. C. | 7/8 | 18 | Klaxon | Chandler All |
| Single | 6-8 | 21 | 6-8 | 4 | 6-8 | 2 | d6-8 | 4 | A. C. | 7/8 | 18 | Klaxon | Chevrolet All |
| Single | 6-8 | 17 | 6-8 | 4 | 6-8 | 2 | 6-8 | 2 | A. C. | 7/8 | 18 | Klaxon | Cleveland 40 |
| Single | 6-8 | 21 | *6-8 | 5 | 6-8 | 4 | d6-8 | 5 | A. C. | 7/8 | 18 | Sparton | Cole All |
| Single | 6-8 | 15 | *6-8 | 4 | 6-8 | 2 | 6-8 | 2 | Champion | 7/8 | 18 | Schwarze | Columbia All |
| Single | 6-8 | 18 | | | 6-8 | 2 | 6-8 | 4 | A. C. | 7/8 | 18 | Klaxon | Comet C-53 |
| Single | 6-8 | 21 | 6-8 | 4 | 6-8 | 2 | d6-8 | 2 | A. C. | 7/8 | 18 | E. A. L. | Commonwealth 42 |
| Single | 6-8 | 21 | 6-8 | 4 | 6-8 | 2 | d6-8 | 2 | Bethlehem | 7/8 | 18 | Klaxon | Crawford 12-L |
| Single | 6-8 | 15 | 6-8 | 4 | 6-8 | 2 | d6-8 | 2 | Champion | 7/8 | 18 | E. A. L. | Crow-Elkhart L-55 |
| Single | 6-8 | 21 | 6-8 | 4 | 6-8 | 2 | 6-8 | 2 | Champion | 7/8 | 18 | Sparton | Cunningham V-4 |
| Single | 6-8 | 21 | 6-8 | 4 | 6-8 | 2 | d6-8 | 2 | A. C. | 7/8 | 18 | Klaxon | Daniels 8-D |
| Single | 6-8 | 21 | | | 6-8 | 2 | 6-8 | 2 | A. C. | 7/8 | 18 | Klaxon | Davis 51 |
| Double | 6-8 | 15 | | | d3-4 | 2 | d3-4 | 2 | Bethlehem | 7/8 | 18 | Trojan | Dixie Flyer H |
| Single | 12-16 | 15 | | | 12-16 | 2 | 12-16 | 2 | A. C. | 7/8 | 18 | North East. | Dodge Brothers |
| Single | 6-8 | 21 | 6-8 | 4 | 6-8 | 2 | 6-8 | 2 | Champion | 7/8 | 18 | Klaxon | Dorris |
| Single | 6-8 | 15 | | | 6-8 | 2 | d6-8 | 2 | A. C. | 7/8 | 18 | Schwarze | Dort 17-A |
| Single | 6-8 | 21 | 6-8 | 4 | 6-8 | 2 | 6-8 | 2 | A. C. | 7/8 | 18 | Klaxon | du Pont A |
| Single | | | | | | | | | | | | | Economy 6-46 |
| Single | 6-8 | 21 | 6-8 | 4 | 6-8 | 2 | 6-8 | 2 | Champion | 7/8 | 18 | E. A. L. | Elcar All |
| Single | 6-8 | 21 | | | 6-8 | 2 | 6-8 | 2 | Champion | 7/8 | 18 | E. A. L. | Elgin K |
| Single | 6-8 | 15 | | | 6-8 | 2 | 6-8 | 2 | A. C. | 18 m.m. | 1.5 m.m. | Sparton | Essex A |
| Single | 6-8 | 21 | 6-8 | 6 | 6-8 | 2 | 6-8 | 4 | Champion | 7/8 | 18 | Klaxon | Ferris |
| Sgl. & Dbl. | 6-8 | 17 | 6-8 | 2 | 6-8 | 2 | | | Champion | 1/2 | pipe | Own | Ford T |
| Double | 12-16 | 15 | *12-16 | 4 | 6-8 | 2 | 6-8 | 2 | Opt | 7/8 | 18 | Klaxon | Franklin 9-B |
| Single | 6-8 | 15 | | | 6-8 | 2 | 6-8 | 2 | Champion | 7/8 | 18 | Trojan | Gardner G |
| Single | 6-8 | 21 | | | 6-8 | 2 | 6-8 | 2 | Champion | 7/8 | 18 | Trojan | Geronimo |
| Single | 6-8 | 15 | 6-8 | 4 | 6-8 | 2 | 6-8 | 2 | Champion | 7/8 | 18 | Trojan | Grant H |
| Sgl. & Dbl. | 6-8 | 21 | 6-8 | 4 | 6-8 | 2 | 6-8 | 2 | Champino | 7/8 | 18 | Sparton | Handley-Knight A |
| Single | 6-8 | 15 | | | 6-8 | 3 | 6-8 | 3 | Champion | 7/8 | 18 | Schwarze | Hanson 54-A |
| Single | 6-8 | 15 | | | 3-4 | 2 | d3-4 | 2 | A. C. | | | Schwarze | Harroun |
| Double | 6-8 | 21 | 6-8 | 5 | 6-8 | 2 | 6-8 | 2 | Bethlehem | 7/8 | 18 | Klaxon | Harvard All |
| Single | 6-8 | 15 | *4-8 | 4 | 6-8 | 4 | 6-8 | 2 | A. C. | 7/8 | 18 | Ecco | Hatfield A |
| Single | 6-8 | 15 | *6-8 | 12 | 6-8 | 2 | 6-8 | 2 | A. C. | 7/8 | 18 | Klaxon | Haynes 47 |
| | | | | | | | | | | | | | H. C. S. Special |
| Single | 6-8 | 15 | 6 | 4 | 3-4 | 2 | 3-4 | 2 | A. C. | 7/8 | 18 | Sparton | Hollier 206-B |
| Double | 12-16 | 21 | | | 12-16 | 2 | 12-16 | 2 | Bethlehem | 7/8 | 18 | Klaxon | Holmes |
| Single | 6-8 | 15 | 6-8 | 2 | 6-8 | 2 | 6-8 | 2 | A. C. | 7/8 | 18 | Sparton | Hudson Super Six |
| | | | | | | | | | | | | | Huffman |
| Single | 6-8 | 15 | | | 6-8 | 2 | 6-8 | 2 | A. C. | 7/8 | 18 | Trojan | Hupmobile R |
| Single | 6-8 | 15 | 6-8 | 4 | 3-4 | 2 | 3-4 | 2 | A. C. | 7/8 | 18 | Stewart | Jackson 6-38 |
| Double | 6-8 | 15 | *6-8 | 4 | s6-8 | 2 | s6-8 | 2 | Champion | 7/8 | 18 | Newtone | Jones |
| Single | 6-8 | 18 | *6-8 | 4 | 6-8 | 3 | 6-8 | 3 | A. C. | 7/8 | 18 | Sparton | Jordan F |
| Single | 6-8 | 18 | 6-8 | 4 | 6-8 | 3 | 6-8 | 3 | A. C. & Rajah | 7/8 | 18 | Sparton | Jordan M |
| Single | 6-8 | 21 | 6-8 | 6 | 6-8 | 2 | 6-8 | 2 | Rajah | 7/8 | 18 | Sparton | Kenworthy 4-80 |
| Single | 6-8 | 21 | 6-8 | 6 | 6-8 | 2 | 6-8 | 2 | A. C. | 7/8 | 18 | Sparton | Kenworthy 6-55 |
| Single | 6-8 | 15 | *6-8 | 4 | 6-8 | 2 | 6-8 | 2 | Champion | 7/8 | 18 | Sparton | King 8 |
| Double | 6-8 | 18 | | | d6-8 | 2 | d6-8 | 2 | A. C. | 7/8 | 18 | Sparton | Kissel |
| Single | 6-8 | 15 | | | 6-8 | 2 | d6-8 | 2 | Champion | 7/8 | 18 | Klaxon | Kline 6-55-J |
| Single | 6-8 | 21 | 6-8 | 4 | 3-4 | 2 | 3-4 | 2 | A. C. | 7/8 | 18 | Klaxon | LaFayette |
| Single | 6-8 | 32 | 6-8 | 5 | 6-8 | 2 | 6-8 | 2 | Champion | 7/8 | 18 | Klaxon | Leach |
| Single | 6-8 | 21 | 6-8 | 4 | 6-8 | 2 | d6-8 | 4 | Bethlehem | 7/8 | 18 | E. A. L. | Lexington S-20 |
| Single | 6-8 | 15 | 6-8 | 4 | 6-8 | 2 | 6-8 | 2 | A. C. | 7/8 | 18 | United | Liberty 10-C |
| Single | 6-8 | 21 | 6-8 | 4 | 6-8 | 2 | 6-8 | 2 | Titan | 7/8 | 18 | Klaxon | Locomobile 48-6-7 |
| Single | 6-8 | 17 | 6 | 5 | 6-8 | 2 | 6-8 | 2 | A. C. | 7/8 | 18 | Schwarze | Lorraine |

Battery: *Prest-O-L*, Prest-O-Lite. Wiring system: *GI*, Generator and Ignition combined; *GIM*, Generator, Ignition, Motor combined; *S*, Generator, Motor Ignition separate; *GM*, Generator and Motor combined. Fuses: *GT*, Glass Tube; *Cart*, Cartridge; *C. B.*, Circuit Breaker. Lamps: *Dashlights in series with taillights; headlight contains sidelight; d,—double contact; s,—single contact; Regulation: *3 B*, Third Brush; *External*, Field Winding.

# Specifications of the Electrical Equipment Found on 1921 Passenger Cars

| Make and Model | IGNITION | | | GENERATOR | MOTOR | BATTERY | | System Voltage | Wiring System | Units Combined | FUSES | | Regulation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | System | Make | Control | Make | Make | Make | Amp. Hr. | | | | Type | Amp. | |
| Maibohm B | Single | At-Kent | Hand | Bijur | Bijur | Willard | 90 | 6 | 1 | S | 2-A | 20 | |
| Marmon 34 | Single | Delco | H & A | Delco | Delco | Willard | 162 | 6 | 1 | GI | | | |
| Maxwell 25 | Single | At-Kent | Hand | | | Prest-O-L | 87½ | 6 | 1 | S | 3-A | 20 | |
| McFarlan 127 | D. & D. | Berl. & W. | Hand | West | West | Willard | 132 | 5 | 1 | GI | 5 A. G. | | External |
| Mercer Ser. 5 | Single | Eisemann | Hand | West | West | Willard | 153 | 6 | 1 | S | Cart | 10 | 3-B |
| Meteor KR | Single | Simms | Hand | West | West | Willard | 118 | 6 | 1 | | 5 A. G. | 10 | |
| Metz, Master Six | Single | Conn | Hand | G. & D. | G. & D. | Willard | 111 | 6 | 1 | S | G | 20 | |
| Mitchell F-40 | Single | Remy | Hand | Remy | Remy | Willard | 90 | 6 | 1 | GI | GT | 10 | |
| Monitor | Single | Conn | Hand | Dyneto | Dyneto | Prest-O-L | 110 | 6 | 1 | | | | |
| Monroe S-9 | Single | Conn | Hand | A-L | A-L | U. S. L. | 80 | 6 | 1 | | | | |
| Moon 6-48 | Single | Delco | Auto | Delco | Delco | Exide | 120 | 6 | 1 | S | | | 3-B |
| Moon 6-68 | Single | Delco | Auto | Delco | Delco | Exide | 120 | 6 | 1 | S | | | 3-B |
| Moore F | Single | Conn | Hand | A-L | A-L | Willard | 90 | 6 | 2 | | | | |
| Nash | Single | Wagner | H & A | Wagner | Wagner | Willard | 111 | 6 | 1 | S | GT | 20 | 3-B |
| National Series BB | Single | Delco | H & A | West | West | Prest-O-L | 125 | 6 | 1 | S | GT | 5 | 3-B |
| Nelson D | Single | Bosch | Hand | U. S. L. | U. S. L. | Willard | 69 | 12 | 2 | S | G | 5–30 | |
| Noma 1-C | Single | Delco | Hand | Delco | Delco | Willard | 90 | 6 | | | | | |
| Norwalk 4–30KS | Single | Delco | | Dyneto | Dyneto | Willard | 80 | 6 | 1 | | | | |
| Oakland 34-B | Single | Remy | Hand | Remy | Remy | Prest-O-L | 100 | 6–8 | 1 | GI | | | 3-B |
| Ogren 6–60 | Single | Bosch | Hand | West | West | Willard | 111 | 6 | 1 | | Cart | 10 | |
| Oldsmobile 37-A | Single | Remy | Hand | Remy | Remy | Willard | 80 | 6 | 1 | | | | 3-B |
| Oldsmobile 46- | Single | Delco | H & A | Delco | Delco | Willard | 90 | 6 | 1 | | | | 3-B |
| Oldsmobile 43-A | Single | Remy | Hand | A-L | A-L | Willard | 90 | 6 | 1 | GI | | | 3-B |
| Olympian 45 | Single | Conn | Hand | A-L | A-L | U. S. L. | | 6 | | | | | |
| Overland 4 | Single | Conn | Hand | A-L | A-L | U. S. L. | 80 | 6–8 | 1 | GI | Glass | 20 | 3-B |
| Packard Single Six | Single | Delco | G & A | At-Kent | At-Kent | | | 6–8 | | S | | | |
| Packard Twin Six | Single | Delco | H & A | Bijur | Bijur | Willard | 134 | 6 | 1 | S | GT | 10 | |
| Paige All | Single | At-Kent | H & A | G & D | G & D | Willard | 111 | 6 | 1 | S | G | 20 | |
| Pan-American All | Single | West | Hand | West | West | Willard | 111 | 6 | 1 | S | G | | 3-B |
| Parenti H | Single | At-Kent | H & A | Bijur | Bijur | U. S. L. | 90 | 6 | 1 | S | | | |
| Paterson 6–50 | Dual | Delco | Hand | Delco | Delco | Willard | 90 | 6 | 1 | | | | |
| Peerless Ser. 6 | Single | At-Kent | H & A | A-L | A-L | Willard | 125 | 6 | 1 | | GT | 10 | 3-B |
| Piedmont 4–30 | Single | Delco | Hand | Dyneto | Dyneto | Willard | 90 | 6 | 1 | S | | | |
| Piedmont 6–40 | Single | Remy | Hand | Remy | Remy | Willard | 90 | 6 | 1 | S | | | |
| Pierce-Arrow 38 | Double | Delco | H & A | Delco | Delco | Willard | 153 | 6–8 | 1 | S | 5 AG | 10–30 | |
| Pilot 6–50 | Single | Conn | Hand | Bijur | Bijur | Prest-O-L | 110 | 6–8 | 1 | S | CB | 10 | 3-B |
| Porter 46 | Dual | Berling | Hand | West | West | Prest-O-L | 118 | 12 | 1 | S | Cart | 15 | |
| Premier 6-D | Single | Delco | Hand | Delco | Delco | Willard | 111 | 6 | 1 | S | | | 3-B |
| Premocar 6–40A | Single | Conn | Hand | Dyneto | Dyneto | Willard | 90 | 6 | 1 | | | | 3-B |
| Premocar 4–80 | Single | Bosch | Hand | West | West | Willard | 90 | 6 | 1 | GT | | 15 | External |
| Ranger A-20 | Single | West | Hand | Bijur | Bijur | U. S. L. | 80 | 6 | 1 | S | GT | 16 | 3-B |
| Reo T6 & U6 | Single | North East | Hand | North East | North East | Willard | 108.5 | 6 | 1 | S | Wire | 6 | |
| Revere | Single | Bosch | Hand | West | West | Willard | 153 | 6 | 1 | S | GT | 15 | 3-B |
| Roamer 5–54E | Single | Bosch | Hand | Bijur | Bijur | Columbia | 117 | 6 | 1 | S | 3-A | 15 | |
| Roamer 4–75E | Single | Bosch | Hand | West | West | Columbia | 117 | 6 | 1 | S | 5 A. G. | 15 | |
| R & V Knight J & R | Single | Wagner | Hand | Wagner | Wagner | Willard | 111 | 6 | 1 | S | Cart | 20 | |
| Saxon 125 | Single | Wagner | H & A | Wagner | Wagner | Prest-O-L | 100 | 6 | 1 | S | Cart | 15 | 3-B |
| Sayers D. P. | Single | Delco | Hand | Delco | Delco | Willard | 90 | 6 | 1 | GI | C.B | | |
| Scripps-Booth B | Single | Remy | Hand | Remy | Remy | Pres-O-L | 85 | 6 | 1 | GI | GT | 20 | |
| Seneca L | Single | Conn | Hand | Allis Chal. | Allis Chal. | Pres-O-L | 88 | 6 | 1 | GM | | 20 | |
| Severin H | Single | Wagner | Hand | Wagner | Wagner | Campbell | 110 | 6 | 1 | None | Cart | 10 | |
| Singer 20 | | Philbrin | Hand | West | West | Willard | 153 | 6 | 1 | S | G. C. | 15–20 | |
| Skelton 35 | Single | Conn | Hand | West | West | Prest-O-L | 85 | 6 | 1 | S | | 10 | 3-B |
| Spacke S-20 | | | | | | | | | | | | | |
| Standard 8–I | Double | Dixie | Hand | West | West | Willard | 153 | 6 | 1 | S.W. | 2-A | 15 | |
| Stanley 735 | | | | Remy | | Willard | 90 | 6 | 1 | G | Cart | 20 | 3-B |
| Stanwood B & A | Single | At-Kent | Hand | West | West | Willard | 153 | 6 | 1 | S | Cart | 10 | 3-B |
| Stearns SKL–4 | Single | At-Kent | Hand | West | West | Willard | 69 | 12 | 1 | S | Cart | 20 | |
| Stephens 80 | Single | Conn | Hand | A-L | A-L | U. S. L. | 116 | 6 | 1 | S | GT | 20 | |
| Stevens-Duryea E | Double | Berling | Hand | West | West | Vesta | 120 | 6–8 | 1 | S | Cart | 15 | 3-B |
| Studebaker EG-EH | Single | Wagner | Hand | Wagner | Wagner | Willard | 111 | 6–8 | 1 | S | Cart | 10 | |
| Studebaker EJ | Single | Wagner & Remy | Hand | Wagner & Remy | Wagner & Remy | Willard | 111 | 6–8 | 1 | S | Cart | 10 | |
| Stutz H | Double | Delco | Hand | Remy | Remy | Willard | 132 | 6 | 1 | S | Cart | 20 | |
| Templar 445 | Single | Simms | Hand | Bijur | Bijur | Prest-O-L | 100 | 6 | 1 | S | Cart | 20 | |
| Texan B-38 & A-38 | Single | Conn | Hand | Bijur | Bijur | Prest-O-L | 80 | 6 | 1 | S | Cart | 20 | |
| Tulsa E-1, 2, 3 | Single | Conn | Hand | Dyneto | Dyneto | Exide | 90 | 6 | 1 | S | GT | 15 | |
| Velie 34 | Single | At-Kent | S. A. | West | West | Willard | 108 | 6 | 1 | S | Wire | 15 | 3-B |
| Velie 48 | Single | At-Kent | S. A. | Bijur | Bijur | Willard | 111 | 6 | 1 | S | Wire | 15 | 3-B |
| Vogue 6–55 & 6–66 | Single | Conn | Hand | A-L | A-L | Willard | 111 | 6 | 1 | | Cart | 20 | |
| Wasp | Single | Bosch | Hand | West | West | Exide | 135 | 6 | 1 | S | Cart | 20 | |
| Westcott C-38 & C-48 | Single | Delco | H & A | Delco | Delco | Willard | 117 | 6 | 1 | S | CB | | |
| Willys-Knight 20 | Single | Conn | Hand | A-L | A-L | U. S. L. | 170 | 6 | 1 | GI | GT | 20 | 3-B |
| Winton Six 25 | Single | Bosch | Hand | Bijur | Bijur | Willard | 139 | 6 | 1 | S | CB | | 3-B |
| Winther 61 | Single | West | Hand | West | West | Willard | 125 | 6 | 1 | S | GI | 10 | |

ABBREVIATIONS: *Starting and Lighting in closed models only. Ignition: *At-K*, Atwater-Kent; *Conn.*, Connecticut; *West*, Westinghouse; *Auto*, Automatic; *H & A*, Hand and Automatic; *D & D*, Dual and Double; *Berl & W*, Berling Mag. and Westinghouse; *S. A.*, Semi-Automatic. Generator: *A-L*, Auto-Lite; *G & D*, Gray & Davis; *Leece-N*, Leece-Neville; *Ward-L.*, Ward-Leonard; *N. E.*, North East; *Split*, Splitdorf. Motor: *A-L*, Auto-Lite; *G & D*, Gray & Davis; *Leece-N*, Leece-Neville; *West*, Westinghouse.

# Giving Ignition, Starting, Lighting, Battery, Lamp, Spark Plug and Horn Data

| LAMP CANDLEPOWER, VOLTAGE AND TYPE OF BASE | | | | | | | | | SPARK PLUGS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | HEADLIGHTS | | SIDELIGHTS | | TAILLIGHTS | | DASHLIGHT | | | | | | |
| Base Contact | Volts | CP. | Volts | CP. | Volts | CP. | Volts | CP. | Make | Diam. Inches | Thread Pitch | Horn | Make and Model |
| Single | 6-8 | 20 | 6-8 | 4 | 6-8 | 2 | 6-8 | 2 | A. C | 7/8 | 18 | Schwarze | Maibohm B |
| Single | 6-8 | 27 | *6-8 | 8 | 6-8 | 2 | 6-8 | 2 | A. C | 7/8 | 18 | Sparton | Marmon 34 |
| Exter'l Sgl. | 6-8 | 15 | | | 6-8 | 2 | 6-8 | 2 | Champion | 7/8 | 18 | Schwarze | Maxwell 25 |
| Single | 6-8 | 32 | *6-8 | 12 | 6-8 | 2 | d6-8 | 2 | A. C | 7/8 | 18 | Klaxon | McFarlan 127 |
| Single | 6-8 | 20 | 6-8 | 5 | 6-8 | 2 | 6-8 | 4 | Champion | 7/8 | 18 | Sparton | Mercer Ser. 5 |
| Single | 6-8 | | 6-8 | | 6-8 | | 6-8 | | A. C | | | | Meteor K R |
| Single | 6-8 | 16 | 6-8 | 4 | 6-8 | 2 | 6-8 | 2 | Champion | 7/8 | 18 | Klaxon | Metz, Master Six |
| Single | 6-8 | 21 | 6-8 | 4 | 6-8 | 2 | d6-8 | 2 | A. C | 7/8 | 18 | Sparton | Mitchell F-40 |
| | | | | | | | | | Champion | 7/8 | 18 | Klaxon | Monitor |
| Double | 6-8 | 16 | | | 6-8 | 2 | 6-8 | 2 | Champion | 7/8 | 18 | Trojan | Monroe S-9 |
| Single | 6-8 | 20 | | | 6-8 | 2 | d6-8 | 2 | Champion | 7/8 | 18 | Klaxon | Moon 6-48 |
| | 6-8 | 20 | | | 6-8 | 2 | d6-8 | 2 | Champion | 7/8 | 18 | Klaxon | Moon 6-68 |
| Single | 6 | 20 | 6-8 | | 6-8 | 2 | | | Champion | 7/8 | 18 | Garford | Moore F |
| Single | 6-8 | 15 | 6-8 | 4 | 6-8 | 2 | d6-8 | 2 | A. C | 7/8 | 18 | Sparton | Nash |
| Single | 6-8 | 20 | 6-8 | 4 | 6-8 | 2 | 6-8 | 2 | A. C | 7/8 | 18 | Sparton | National Series BB |
| Double | 12-16 | 15 | 12-16 | 4 | 12-16 | 2 | 12-16 | 2 | Champion | 18 m.m. | | Schwarze | Nelson D |
| Single | 6-8 | | | | 6-8 | | d6-8 | | | | | | Noma 1-C |
| Single | 6-8 | 17 | | | 6 | 2 | 6 | 2 | Champion | 7/8 | 8 | Stewart | Norwalk 4-30 KS |
| Single | 6-8 | 15 | | | 6-8 | 2 | 6-8 | 2 | A. C | 7/8 | 18 | Schwarze | Oakland 34-B |
| Single | 6 | 32 | 6 | | 6 | 4 | 6 | 4 | Champion | 7/8 | 18 | Klaxon | Ogren 6-60 |
| Single | 6-8 | 15 | 6-8 | 4 | 6-8 | 2 | 6-8 | 2 | A. C | 7/8 | 18 | Klaxon | Oldsmobile 37-A |
| Single | 6-8 | 15 | 6-8 | 4 | 6-8 | 2 | 6-8 | 2 | A. C | 7/8 | 18 | Klaxon | Oldsmobile 46 |
| Single | 6-8 | 15 | 6-8 | 4 | 6-8 | 2 | 6-8 | 2 | A. C | 7/8 | 18 | Klaxon | Oldsmobile 43-A |
| | | | | | | | | | Champion | | | E. A. Lab. | Olympian 45 |
| Single | 6-8 | 16 | | | 3-4 | 2 | *3-4 | 2 | Champion | 1/2 | | A. L | Overland 4 |
| | 6-8 | | 6-8 | 4 | 6-8 | 2 | 6-8 | 2 | | 7/8 | 18 | | Packard Single Six |
| Single | 6-8 | 21 | 6-8 | 4 | 6-8 | 2 | 6-8 | 4 | A. C | 7/8 | 18 | Sparton | Packard Twin Six |
| Single | 6-8 | 17 | 6-8 | 4 | 6-8 | 2 | d6-8 | 2 | A. C | 7/8 | 18 | Trojan | Paige All |
| Single | 6-8 | 32 | | | 6-8 | 2 | *3-4 | 4 | A. C | 7/8 | 18 | E. A. Lab. | Pan-American All |
| Single | 6-8 | 21 | | | 6 | 2 | 6 | 2 | A. C | 7/8 | 18 | Klaxon | Parenti H |
| Single | 6-8 | 15 | 6-8 | 4 | 6-8 | 2 | 6-8 | 2 | A. C | | | E. A. Lab. | Paterson 6-50 |
| Single | 6-8 | 21 | 6-8 | 4 | 6-8 | 2 | 6-8 | 2 | Champion | 7/8 | 18 | Sparton | Peerless Ser. 6 |
| Single | 6-8 | 12 | | | 6 | 2 | 6 | 2 | Champion | 7/8 | 18 | Klaxon | Piedmont 4-30 |
| | | | | | | | | | Champion | 7/8 | 18 | Klaxon | Piedmont 6-40 |
| Single | 6-8 | 12 | | | 6 | 2 | 6 | 2 | | | | | |
| Single | 6-8 | 20 | 6-8 | 5 | 6-8 | 5 | 6-8 | 5 | A. C | 7/8 | 18 | Klaxon | Pierce-Arrow 38 |
| Single | 6-8 | 21 | 6-8 | 2 | 6-8 | 2 | 6-8 | 2 | A. C | 7/8 | 18 | | Pilot 6-50 |
| Single | 12-16 | 20 | 12-16 | 4 | 12-16 | 4 | 12-16 | 2 | A. C | | 18 | Stewart | Porter 46 |
| Double | 6-8 | 21 | *6-8 | 4 | 6-8 | 2 | d6-8 | 2 | A. C | 7/8 | 18 | Klaxon | Premier 6 |
| Single | 6-8 | 16 | 6-8 | 2 | 6-8 | 2 | 6-8 | 4 | Bethlehem | 7/8 | 18 | Klaxon | Premocar 6-40A |
| Single | 6-8 | 20 | 6-8 | 2 | 6-8 | 2 | 6-8 | 4 | Bethlehem | 7/8 | 18 | Klaxon | Premocar 4-80 |
| | | | | | | | | | Champion | 7/8 | 18 | Stewart | Ranger A-20 |
| Single | 6-8 | 15 | 6-8 | 4 | 6-8 | 2 | 6-9 | 2 | | | | | |
| Single | 6-8 | 15 | | | 6 | 2 | 6 | 2 | A. C | 1/2 | 18 | North East | Reo T6 & U6 |
| Single | 6-8 | 20 | *6-8 | 8 | 6-8 | 4 | 6-8 | 4 | Optional | 7/8 | 18 | Klaxon | Revere |
| Single | 6-8 | 15 | 6-8 | 8 | 6-8 | 2 | 6-8 | 2 | A. C | 7/8 | 18 | Sparton | Roamer 6-54E |
| Single | 6-8 | 15 | 6-8 | 8 | 6-8 | 2 | 6-8 | 2 | A. C | 7/8 | 18 | Sparton | Roamer 4-75E |
| Single | 6-8 | 15 | 6-8 | 4 | 6-8 | 2 | d6-8 | 4 | A. C | 7/8 | 18 | Klaxon | R & V Knight J & R |
| | | | | | | | | | A. C | 7/8 | 18 | Trojan | Saxon 125 |
| Single | 6-8 | 15 | | | 6-8 | 2 | 6-8 | 2 | | | | | |
| Single | 6-8 | 15 | | | 6-8 | 2 | d6-8 | 2 | Champion | 7/8 | 18 | Stewart | Sayers D. P. |
| Single | 6-8 | 21 | | | 6-8 | 4 | 6-8 | 2 | A. C | 7/8 | 18 | Klaxon | Scripps-Booth B |
| Single | 6-8 | 15 | 6-8 | 2 | 6-8 | 2 | d6-8 | 2 | A. C | 7/8 | 18 | Fitzgerald | Seneca L |
| Double | 6 | 17 | 6 | 5 | 6 | 2 | 6 | 2 | Champion | 7/8 | 18 | Klaxon | Severin H |
| | 6-8 | 15 | | 4 | 6-8 | 2 | d6-8 | 2 | A. C | 7/8 | 18 | Klaxon | Singer 20 |
| Single | 6 | 18 | | | 6 | 2 | 6 | 2 | Champion | 7/8 | 18 | Klaxon | Skelton 35 |
| | | | | | | | | | | | | | Spacke S-20 |
| Single | 6-8 | 21 | 6-8 | 4 | 6-8 | 2 | 6-8 | 2 | A. C | 7/8 | 18 | Klaxon | Standard 8-I |
| Single | 6-8 | 21 | 6-8 | 4 | 6-8 | 2 | 6-8 | 2 | | | | Klaxon | Stanley 735 |
| Single | 6 | 17 | 6 | 10 | 6 | 2 | 6-8 | 2 | A. C | 7/8 | 18 | Klaxon | Stanwood B & A |
| Single | 12-16 | 21 | *12-16 | 4 | 12-16 | 2 | 12-16 | 2 | A. C | 7/8 | 18 | B.&A. Lab. | Stearns SKL- |
| Single | 6-8 | 15 | 6-8 | 2 | 6-8 | 2 | 6-8 | 2 | Champion | 7/8 | 18 | Klaxon | Stephens 80 |
| Single | 6-8 | 21 | 6-8 | 4 | 6-8 | 2 | 6-8 | 2 | A. C | 7/8 | 18 | Klaxon | Stevens-Duryea E |
| Single | 6-8 | 12 | 6-8 | 4 | 6-8 | 2 | 6-8 | 2 | Champion | 1/2 | | Sparton | Studebaker EG-E |
| Single | 6-8 | 12 | | | 6-8 | 2 | 6-8 | 2 | Bethlehem | 1/2 | | Sparton | Studebaker EJ |
| Double | 6-8 | 15 | *6-8 | 4 | 6-8 | 2 | 6-8 | 2 | A. C | | | Klaxon | Stutz H |
| Single | 6-8 | 21 | *6-8 | 4 | 6-8 | 2 | 6-8 | 2 | Champion | 7/8 | | Klaxon | Templar 445 |
| Single | 6 | 16 | | | 6 | 2 | 6-8 | 2 | A. C | 7/8 | 18 | Klaxon | Texan B38 & A38 |
| Single | 6-8 | 21 | 6-8 | 2 | 6-8 | 2 | d6-8 | 2 | Champion | 7/8 | 18 | Trojan | Tulsa E-1, 2, 3 |
| Single | 6-8 | 21 | 6-8 | 4 | 6-8 | 2 | 6-8 | 2 | Champion | 7/8 | 18 | E. A. Lab. | Velie 34 |
| Single | 6-8 | 21 | 6-8 | 4 | 6-8 | 2 | 6-8 | 2 | Champion | 7/8 | 18 | E. A. Lab. | Velie 48 |
| Single | 6-8 | 21 | 6-8 | 4 | 6-8 | 2 | 6-8 | 2 | A. C | 7/8 | 18 | Klaxon | Vogue 6-55 & 6-66 |
| | | | | | | | | | | | | | Wasp |
| Single | 6-8 | 21 | *6-8 | 4 | 3-4 | 2 | d3-4 | 2 | A. C | 7/8 | 18 | Klaxon | Westcott C-38 & C-48 |
| Single | 6-8 | 30 | | | 3-4 | 2 | *3-4 | 2 | Champion | | | Sparton | Willys-Knight 20 |
| Singl.e | 6-8 | 21 | 6-8 | 6 | 6-8 | 2 | 6-8 | 2 | Champion | 7/8 | 18 | Sparton | Winton Six 25 |
| Single | 6 | 18 | | | 6 | 4 | 6 | 2 | A. C | 7/8 | 18 | Klaxon | Winther 61 |

Battery: *Prest-O-L*, Prest-o-Lite. Wiring system: *GI*, Generator and Ignition combined; *GIM*, Generator, Ignition, Motor combined; *S*, Generator, Motor Ignition separate; *GM*, Generator and Motor combined. Fuses: *GT*, Glass Tube; *Cart*, Cartridge; *C. B.*, Circuit Breaker. Lamps: *Dashlights in series with taillights; headlight contains sidelight; d,—double contact; s,—single contact. Regulation, *3B*, Third Brush; External, Field Winding.

# Buyers' Guide to 1921 Gasoline Trucks

## Classified According to Load Capacity and Combined with Salient Features of Chassis Design

### TRUCKS OF UNDER ½-TON CAPACITY

| Name and Model | Chassis Price | Wheelbase, Inches | Tires | N.A.C.C. Horsepower | Electric System | Gearset Type | Final Drive |
|---|---|---|---|---|---|---|---|
| Pony | $400 | 92 | pneu | 12.1 | none | fric | chain |

### TRUCKS OF ½-TON CAPACITY

| Name and Model | Chassis Price | Wheelbase, Inches | Tires | N.A.C.C. Horsepower | Electric System | Gearset Type | Final Drive |
|---|---|---|---|---|---|---|---|
| Dodge C | $1,085 | 114 | pneu | 15.6 | s,l&i | selec | bevel |
| Elmira C | 600 | 105 | pneu | 15.6 | lighting | selec | bevel |
| Seneca M-20 | ..... | 108 | pneu | 19.6 | s,l&i | selec | bevel |
| Vim 29 | 1,555 | 108 | pneu | 15.6 | s,l&i | selec | worm |

### TRUCKS OF ¾-TON CAPACITY

| Name and Model | Chassis Price | Wheelbase, Inches | Tires | N.A.C.C. Horsepower | Electric System | Gearset Type | Final Drive |
|---|---|---|---|---|---|---|---|
| Acme G | $1,790 | 130 | pneu | 22.5 | lighting | selec | worm |
| Chevrolet G | 820 | 120 | pneu | 22.5 | s,l&i | selec | bevel |
| Fulton A | 1,775 | 130 | pneu | 19.6 | ..... | selec | bevel |
| G. M. C 16 | 1,495 | 132 | pneu | 22.5 | s,l&i | selec | bevel |
| Commerce | 1,350 | 127 | pneu | 22.5 | s&l | selec | bevel |
| International H | 1,850 | 115 | opt | 19.6 | ..... | selec | int-gear |
| International S | 1,500 | 124 | pneu | 19.6 | s&l | selec | int-gear |
| Kearns H | 1,600 | 118 | pneu | 16.9 | s&l-2 | selec | int-gear |
| Lion L | 2,200 | 132 | pneu | 22.5 | ..... | selec | worm |
| Patriot Revere | 1,785 | 129 | pneu | 22.5 | s&l | selec | worm |
| Rainier R-11 | 2,150 | 125 | ..... | 19.6 | lighting | selec | worm |
| Reo F | 1,385 | 128 | pneu | 27.3 | ..... | selec | bevel |
| Stewart F | 1,450 | 110 | pneu | 15.6 | s,l&i-2 | selec | int-gear |
| Texan 1921 | ..... | 115 | pneu | 19.6 | s,l&i | selec | bevel |
| Watson O | 1,750 | 128 | pneu | 22.5 | s,l&i-2 | selec | worm |
| White 15 | 2,600 | 133½ | pneu | 22.5 | ..... | selec | bevel |
| Winther 751 | 1,795 | 135 | pneu | 19.6 | s,l&i-2 | selec | int-gear |

### TRUCKS OF 1-TON CAPACITY

| Name and Model | Chassis Price | Wheelbase, Inches | Tires | N.A.C.C. Horsepower | Electric System | Gearset Type | Final Drive |
|---|---|---|---|---|---|---|---|
| Acme B | $2,175 | 130 | solid | 22.5 | s,l&i | selec | worm |
| Akron-Multi 20 | ..... | 133½ | pneu | 25.6 | s,l&i | selec | worm |
| Armleder 20 | ..... | 148 | solid | 22.5 | s&l-2 | selec | worm |
| Atlas 21 | ..... | 130 | pneu | 19.6 | s,l&i | selec | worm |
| Avery | ..... | 129 | pneu | 21.6 | s,l&i | selec | int-gear |
| Bessemer G | 1,825 | 124 | pneu | 29.4 | ..... | selec | int-gear |
| Bethlehem K | 1,605 | 125 | pneu | 19.6 | s&l-2 | selec | bevel |
| Birch | 1,485 | 132 | solid | 29.4 | s&l | selec | int-gear |
| Briscoe 234 | 1,485 | 121 | pneu | 18.2 | s,l&i | selec | int-gear |
| Chevrolet T | 1,325 | 125 | pneu | 22.5 | s,l&i-2 | selec | worm |
| Clydesdale 32-C | 2,375 | 144 | solid | 22.5 | s,l&i | selec | worm |
| Commerce E | 1,990 | 126 | pneu | 22.5 | lighting | selec | int-gear |
| Corbitt E | 2,400 | 130 | solid | 22.5 | s,l&i-2 | selec | worm |
| D-E A | 2,100 | 128 | solid | 22.5 | s&l-2 | selec | worm |
| Demby 12 | 2,400 | 124 | pneu | 22.5 | ..... | selec | int-gear |
| Dependable A | 1,650 | 134 | pneu | 19.6 | s&l | selec | worm |
| | | | | | lighting | selec | worm |
| Federal SD | 2,600 | 132 | pneu | 22.5 | ..... | ..... | ..... |
| Ford TT | 545 | 123 | pneu | 22.5 | s,l&i-2 | plan | worm |
| Fulton A | 1,775 | 130 | pneu | 19.6 | s&l-2 | selec | bevel |
| Gramm-Bernstein 10 | 1,495 | 128 | pneu | 19.6 | s,l&i | selec | bevel |
| Halfur E | 2,350 | 136 | pneu | 25.6 | s&l-2 | selec | worm |
| Higrade A-18 | 2,100 | 115 | pneu | 19.6 | s&l | selec | worm |
| International F | 2,050 | 128 | opt | 19.6 | ..... | selec | int-gear |
| Kleiber AA | 2,600 | 130 | solid | 27.2 | lighting | selec | worm |

### TRUCKS OF 1-TON CAPACITY—Con.

| Name and Model | Chassis Price | Wheelbase, Inches | Tires | N.A.C.C. Horsepower | Electric System | Gearset Type | Final Drive |
|---|---|---|---|---|---|---|---|
| Menominee HF | $2,080 | 130 | solid | 22.5 | lighting | ind-c | worm |
| Moreland 20N | 2,850 | 132 | pneu | 22.5 | ..... | selec | worm |
| Napoleon 9 | 1,535 | 132 | solid | 19.6 | s,l&i | selec | int-gear |
| Nash 2018 | 1,895 | 130 | solid | 22.5 | s,l&i-2 | selec | int-gear |
| Noble A-21 | ..... | 130 | pneu | 19.6 | s&l-2 | selec | worm |
| Norwalk 25-E | 1,695 | 130 | pneu | 19.6 | s,l&i | selec | worm |
| Old Hickory W | 2,175 | 135 | solid | 22.5 | none | selec | worm |
| Olds Economy T | 1,500 | 128 | pneu | 22.5 | s,l&i-2 | selec | int-gear |
| Pioneer AA | 1,550 | 130 | pneu | 22.5 | s&l-2 | selec | worm |
| Rainier R-19 | 2,350 | 135 | solid | 19.6 | lighting | selec | worm |
| Republic 10-E | 1,645 | 124 | pneu | 22.5 | lighting | selec | int-gear |
| Sandow G | 2,295 | 120 | solid | 22.5 | lighting | selec | worm |
| Schwartz A | ..... | 130 | pneu | 19.6 | s,l&i | selec | worm |
| Service 220 | 2,415 | 137 | solid | 19.6 | s&l | selec | worm |
| Signal NF | 2,475 | 132 | pneu | 22.5 | none | selec | worm |
| Southern 10 | 2,090 | 136 | opt | 22.5 | none | selec | worm |
| Standard 1-K | 2,475 | 134 | opt | 22.5 | none | selec | worm |
| Stewart 12 | 1,850 | 130 | pneu | 19.6 | s,l&i-2 | selec | worm |
| Stoughton A | 1,995 | 130 | pneu | 22.5 | s&l | selec | worm |
| Transport 20 | 1,859 | 130 | solid | 22.5 | l&i | selec | int-gear |
| Triangle D | ..... | 128 | pneu | 16.9 | s,l&i | selec | int-gear |
| Vim 31 | 2,475 | 125 | pneu | 22.5 | s,l&i-2 | selec | int-gear |
| White Hickory E | ..... | 124 | pneu | 22.5 | none | selec | worm |
| Wichita K | 2,300 | 144 | solid | 19.6 | none | selec | worm |
| Wilcox-Trux AA | 2,100 | 130 | solid | 22.5 | lighting | selec | worm |

### TRUCKS OF 1¼-TON CAPACITY

| Name and Model | Chassis Price | Wheelbase, Inches | Tires | N.A.C.C. Horsepower | Electric System | Gearset Type | Final Drive |
|---|---|---|---|---|---|---|---|
| Garford 25-B | ..... | 135 | solid | 22.5 | s&l | selec | worm |
| Indiana 12 | $2,290 | 134 | solid | 22.5 | s&l | selec | worm |
| Koehler C | ..... | 131 | solid | 19.6 | none | selec | int-gear |
| Oneida A-9 | 2,350 | 135 | solid | 22.5 | s&l | selec | worm |
| Traylor B | ..... | 132 | solid | 22.5 | ..... | selec | worm |

### TRUCKS OF 1½-TON CAPACITY

| Name and Model | Chassis Price | Wheelbase, Inches | Tires | N.A.C.C. Horsepower | Electric System | Gearset Type | Final Drive |
|---|---|---|---|---|---|---|---|
| Acme F | $2,475 | 141 | solid | 22.5 | s&l | ind-c | worm |
| Atco B | ..... | 132 | pneu | 22.5 | s,l&i-2 | selec | worm |
| Atterbury 20-R | ..... | 144 | solid | 22.5 | lighting | selec | worm |
| Available H-1½ | 2,750 | 145 | solid | 25.6 | lighting | ind-c | worm |
| Bell F | 2,250 | 136 | solid | 16.9 | none | selec | int-gear |
| Bessemer H-2 | 1,825 | 144 | solid | 22.5 | ..... | selec | int-gear |
| Bridgeport A | 2,350 | 144 | solid | 22.5 | ..... | ind-c | worm |
| Brockway S-4 | ..... | 140 | opt | 22.5 | s&l | selec | worm |
| Capitol G | 2,750 | 144 | pneu | 22.5 | s,l&i | ind-c | worm |
| Chicago C-1½ | 2,450 | 144 | solid | 22.5 | ..... | selec | worm |
| Climber A | 2,450 | 146 | opt | 19.6 | s,l&i-2 | selec | int-gear |
| Clydesdale 42-C | 2,750 | 146 | solid | 22.5 | s,l&i | selec | worm |
| Commerce EP | 2,250 | 134 | pneu | 22.5 | lighting | selec | int-gear |
| Corbitt D | 2,800 | 140 | solid | 22.5 | s,l&i-2 | selec | worm |
| Dart S | ..... | 140 | solid | 22.5 | s&l | selec | worm |
| D-E B | 2,450 | 144 | solid | 22.5 | s&l-2 | selec | worm |
| Dearborn M | 2,180 | 124 | solid | 22.5 | ..... | selec | worm |
| Defiance D | 2,250 | 140 | pneu | 22.5 | s&l-2 | selec | int-gear |
| Denby 33 | 2,300 | 136 | pneu | 22.5 | ..... | ..... | int-gear |
| Dependable C | 2,350 | 128 | solid | 22.5 | s&l | selec | worm |
| Diamond T T | 2,450 | 144 | solid | 32.4 | ..... | selec | worm |
| Douglas | 2,200 | 128 | solid | 22.5 | s,l&i-2 | selec | worm |
| Fageol | 3,400 | 136 | solid | 22.5 | lighting | selec | worm |
| Federal TE | 2,825 | 144 | solid | 27.2 | none | selec | worm |
| Gary 1 | 2,550 | 144 | pneu | 27.2 | none | selec | worm |
| G. M. C 31 | 2,395 | 130 | solid | 22.5 | lighting | selec | worm |
| Graham Bros A | 2,495 | 133 | pneu | 22.5 | s,l&i | selec | int-gear |
| Gramm-Bernstein 15 | 2,050 | 138 | opt | 22.5 | s,l&i-2 | selec | int-gear |

**ABBREVIATIONS—Types of Construction**

*—with other options
**dbl-red**—double reduction drive
**4**—driving on all four wheels
**fric**—friction
**ind-c**—individual clutch, constant mesh
**int-gear**—internal gear
**plan**—planetary
**pneu**—pneumatic
**p&s**—pneumatic and solid
**prog**—progressive
**selec**—selective sliding gearset
**s, l & i**—starting, lighting and ignition
**s, l & i-2**—2-unit starting, lighting and ignition system
**s & l-2**—2-unit starting and lighting system

## TRUCKS OF 1½-TON CAPACITY—Con.

| Name and Model | Chassis Price | Wheel-base, Inches | Tires | N.A.C.C. Horse-power | Elec-tric System | Gear-set Type | Final Drive |
|---|---|---|---|---|---|---|---|
| Gramm-Bernstein....c5 | $2,725 | 138 | opt.... | 22.5 | s,l&i-2... | ind-c.. | worm |
| Grant....17 | 2,675 | 140 | pneu.... | 22.5 | s&l-2... | selec.. | int-gear |
| Hahn....CD | .... | ... | solid.... | 22.5 | s&l.... | selec.. | worm |
| Hall....Dispatch | 3,100 | ... | pneu.... | 22.5 | s&l.... | ..... | worm |
| Harvey....WEA | 2,550 | 132 | solid.... | 27.2 | ..... | selec.. | worm |
| Hawkeye....K | 2,365 | 148½ | solid.... | 22.5 | s&l-2... | selec.. | int-gear |
| Higrade....B-20 | 2,500 | 130 | pneu.... | 27.2 | s&l.... | selec.. | worm |
| Hoffman....C | 1,875 | 140 | solid.... | 22.5 | ..... | selec.. | int-gear |
| Hoffman....B | 2,075 | 140 | solid.... | 22.5 | ..... | selec.. | worm |
| Independent....F | 2,585 | 129 | opt..... | 22.5 | ..... | prog.. | worm |
| International....K | 2,400 | 129 | opt..... | 19.6 | ..... | selec.. | int-gear |
| Jumbo....15 | 2,850 | 144½ | solid.... | 22.5 | s,l&i-2.-. | selec.. | intgear |
| Kalamazoo....G-2 | ..... | 144 | solid.... | 22.5 | s&l-2... | selec.. | worm |
| Kearns....N | 2,200 | 136 | solid.... | 19.6 | none.... | selec.. | int-gear |
| Kelly-Springfield....K-34 | 2,900 | 144 | solid.... | 22.5 | s&l-2... | selec.. | worm |
| Kissel....GU | 2,775 | 152 | solid.... | 24.0 | s,l&i-2... | selec.. | worm |
| Kleiber....A | 3,100 | 143 | solid.... | 27.2 | lighting.. | selec.. | worm |
| Larrabee....U | 2,400 | 138 | solid.... | 22.5 | s,l&i-2... | selec.. | worm |
| Lone Star....9 | 1,595 | 134½ | pneu.... | 19.6 | s&l..... | ..... | int-gear |
| Luverne....Express | 2,750 | 140 | pneu.... | 16.92 | ..... | ..... | worm |
| Maccar....L-2 | 2,925 | 150 | solid.... | 27.2 | none.... | selec.. | worm |
| Mack....AB | 3,450 | 162 | solid.... | 25.6 | s&l-2... | selec.. | dbl-red |
| Mack....AB | 3,000 | 162 | solid.... | 25.6 | s&l-2... | selec.. | chain |
| Master....JW | 2,290 | 142 | solid.... | 27.2 | lighting.. | selec.. | worm |
| Master....JI | 2,190 | 142 | solid.... | 27.2 | lighting.. | selec.. | int-gear |
| Maxwell.... | ..... | 124 | solid.... | 21.0 | lighting.. | selec.. | worm |
| Menominee....H | 2,725 | 144 | solid.... | 25.6 | lighting.. | ind-c.. | worm |
| Moline....10 | 2,250 | 130 | pneu.... | 19.6 | ..... | selec.. | int-gear |
| Moreland....23-B | 3,125 | 150 | solid.... | 27.2 | ..... | selec.. | worm |
| Napoleon....11 | 1,860 | 132½ | solid.... | 19.6 | s,l&i.... | selec.. | int-gear |
| New York....M | 3,100 | 144 | solid.... | 27.2 | ..... | ind-c.. | worm |
| Noble....B-30 | ..... | 156 | solid.... | 22.5 | s&l-2... | selec.. | worm |
| Norwalk....35-E | 2,025 | 143 | pneu.... | 19.6 | s,l&i.... | selec.. | worm |
| Ogden....A-1 | 2,550 | 136 | opt..... | 22.5 | ..... | selec.. | worm |
| Orleans....A | 2,750 | 144 | solid.... | 22.5 | lighting.. | ind-c.. | worm |
| Old Reliable....A | 2,600 | 136 | solid.... | 25.6 | lighting.. | selec.. | worm |
| O. K....HT | 2,775 | 150 | pneu.... | 22.5 | s&l..... | selec.. | worm |
| O. K....K1 | 2,675 | 150 | solid.... | 25.6 | s&l..... | selec.. | worm |
| Paige....52-19 | 2,880 | 140 | solid.... | 25.6 | s&l..... | selec.. | worm |
| Patriot....Lincoln | 2,450 | 140 | solid.... | 25.6 | s&l..... | selec.. | worm |
| Piedmont....430 | 1,685 | 132 | pneu.... | 19.6 | s,l&i.... | selec.. | worm |
| Rainier....R-16 | 2,600 | 147 | solid.... | 22.5 | lighting 2 | selec.. | worm |
| Reliance....10-A | 2,500 | 150 | solid.... | 25.6 | lighting.. | selec.. | ex-gear |
| Republic....11-X | 2,195 | 144 | solid.... | 22.5 | s&l..... | selec.. | int-gear |
| Rowe....CW | 3,000 | 133 | pneu.... | 22.5 | none.... | selec.. | worm |
| Rumely....A | ..... | 144 | solid.... | 22.5 | none.... | selec.. | worm |
| Sandow....CG | 2,590 | 135 | solid.... | 22.5 | lighting.. | selec.. | worm |
| Schwartz....BW | 2,600 | 146 | solid*... | 22.5 | lighting.. | selec.. | worm |
| Selden....1½-A | ..... | 137½ | solid.... | 22.5 | s&l-2... | selec.. | worm |
| Service....31 | 2,985 | 150 | solid.... | 25.6 | s&l..... | selec.. | worm |
| Service....36 | 2,415 | 150 | pneu.... | 29.0 | s&l..... | selec.. | worm |
| Signal....H | 2,925 | 146 | solid.... | 27.2 | none.... | selec.. | worm |
| Southern....15 | 2,590 | 146 | opt..... | 22.5 | none.... | selec.. | worm |
| Sterling.... | ..... | 142 | solid.... | 25.6 | s&l-2... | selec.. | worm |
| Stewart....9 | 2,450 | 140 | solid.... | 22.5 | none.... | selec.. | int-gear |
| Stoughton....B | 2,350 | 140½ | solid.... | 22.5 | lighting.. | selec.. | worm |
| Tiffin....F-15 | 2,695 | 135 | solid.... | 27.2 | s&l-2... | selec.. | worm |
| Tower....J | 3,000 | 142 | pneu.... | 27.2 | none.... | selec.. | worm |
| Transport....30 | 2,250 | 140 | solid.... | 22.5 | l&i..... | selec.. | int-gear |
| Triangle....A | 2,350 | 144 | solid.... | 22.5 | s&l-2... | selec.. | int-gear |
| United....A | 2,445 | 145 | solid.... | 19.6 | s&l-2... | selec.. | int-gear |
| U. S. N.... | ..... | 144 | solid.... | 19.6 | s,l&i-2... | selec.. | int-gear |
| Velie....46 | 2,200 | 133 | solid.... | 19.6 | none.... | selec.. | int-gear |
| Victor.... | 2,050 | 138 | pneu.... | 22.5 | lighting.. | selec.. | worm |
| Waltham....E | 2,500 | 140 | pneu.... | 22.5 | lighting.. | selec.. | worm |
| Western....W-1½ | 2,550 | 144 | opt..... | 27.2 | lighting.. | selec.. | worm |
| Western....L-1½ | 2,550 | 144 | opt..... | 22.5 | lighting.. | selec.. | worm |
| White Hickory....H | ..... | 144 | solid.... | 22.5 | none.... | selec.. | worm |
| Wichita....L | ..... | 144 | solid.... | 22.5 | none.... | selec.. | worm |
| Wilcox Trux....B | 2,775 | 144 | solid.... | 29.0 | none.... | selec.. | worm |
| Winther....39 | 2,450 | 140 | solid.... | 22.5 | s&l-2... | selec.. | int-gear |
| Winther-Marwin.... | 2,850 | 132 | solid.... | 22.5 | s&l-2... | selec.. | int-gear |
| Winther-Marwin....450 | 3,690 | 134 | solid.... | 25.6 | s&l-2... | selec.. | int-gear |
| Witt-Will....N | 2,250 | 122 | solid.... | 22.5 | none.... | selec.. | worm |

## TRUCKS OF 2-TON CAPACITY

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Acme....A | $3,050 | 140 | solid.... | 27.2 | s&l..... | ind-c.. | worm |
| Autocar....XXI-UF | 2,300 | 97 | solid.... | 18.1 | none.... | prog.. | dbl-red |
| Autocar....XXI-UG | 2,400 | 120 | opt..... | 18.1 | none.... | prog.. | dbl-red |
| Bethlehem....G | 2,725 | 135 | solid.... | 25.6 | s&l-2... | selec.. | int-gear |

## TRUCKS OF 2-TON CAPACITY—Con.

| Name and Model | Chassis Price | Wheel-base, Inches | Tires | N.A.C.C. Horse-power | Elec-tric System | Gear-set Type | Final Drive |
|---|---|---|---|---|---|---|---|
| Cook....41 | $3,000 | 95 | pneu.... | 25.6 | lighting.. | ind-c.. | int-gear |
| Corbitt....C | 3,500 | 148 | solid.... | 27.2 | lighting.. | selec.. | worm |
| D-E....D | 2,950 | 144 | solid.... | 27.2 | s&l-2... | selec.. | worm |
| Dearborn....48 | 2,590 | 148 | pneu.... | 22.5 | none.... | selec.. | worm |
| Defiance....E | 2,750 | 140 | pneu.... | 22.5 | s&l-2... | selec.. | int-gear |
| DeKalb....E-2 | 2,250 | 134 | solid.... | 27.2 | none.... | selec.. | worm |
| Denby....134 | 2,800 | 144 | solid.... | 22.5 | ..... | selec.. | int-gear |
| Dependable....D | 2,650 | 128 | solid.... | 25.6 | s&l..... | selec.. | worm |
| Diamond T....U | 2,835 | 160 | solid.... | 25.6 | ..... | selec.. | worm |
| Dorris....K-4 | 3,400 | ... | solid.... | 29.0 | s&l..... | selec.. | worm |
| Duty....21 | 1,490 | 134 | solid.... | 19.6 | none.... | selec.. | int-gear |
| Federal....UE | 3,150 | 156 | solid.... | 27.2 | none.... | selec.. | worm |
| Fulton....C | 2,350 | 137 | solid.... | 19.6 | ..... | selec.. | worm |
| Garford....70-H | ..... | 144 | solid.... | 29.0 | s&l-2... | selec.. | worm |
| G. M. C....41 | 2,725 | 158 | solid.... | 27.2 | s,l&i-2... | selec.. | worm |
| Gramm-Bernstein....20 | 3,175 | 144 | opt..... | 27.2 | s,l&i-2... | ind-c.. | worm |
| Hawkeye....M | 2,915 | 148½ | solid*... | 29.0 | s&l-2... | selec.. | int-gear |
| Indiana....20 | 2,950 | 150 | solid*... | 27.2 | s&l..... | selec.. | worm |
| International....G | 2,800 | 138 | opt..... | 29.0 | ..... | selec.. | int-gear |
| Inland....D | 2,950 | 132 | solid.... | 25.6 | none.... | selec.. | int-gear |
| Jumbo....20 | 3,100 | 144½ | pneu.... | 22.5 | s,l&i-2... | selec.. | int-gear |
| J & J....D | 3,250 | 134 | solid.... | 25.6 | lighting.. | selec.. | int-gear |
| Keystone....40 | 2,550 | 144 | pneu.... | 22.5 | ..... | selec.. | int-gear |
| Kleiber....BB | 4,000 | 153 | solid*... | 27.2 | lighting.. | selec.. | worm |
| Lange....P | 3,350 | 136 | opt..... | 25.6 | ..... | ind-c.. | chain |
| Luedinghaus....K | 2,790 | 145 | solid*... | 29.0 | none.... | selec.. | worm |
| Mack....AB | 3,300 | 162 | solid.... | 25.6 | s&l-2... | selec.. | chain |
| Mack....AB | 3,750 | 162 | solid.... | 25.6 | s&l-2... | selec.. | dbl-red |
| Master....JM | 2,590 | 134 | solid.... | 29.0 | lighting.. | selec.. | int-gear |
| Master....W | 2,890 | 144 | solid.... | 29.0 | lighting.. | selec.. | worm |
| Menominee....D | 3,245 | 144 | solid.... | 25.6 | lighting.. | ind-c.. | worm |
| Mutual....2-AP | 3,450 | 152 | solid.... | 25.6 | s&l-2... | ind-c.. | worm |
| Nash....3018 | 2,550 | 144 | solid.... | 22.5 | s,l&i-2... | selec.. | int-gear |
| Netco....D | 3,100 | 144 | solid*... | 27.2 | lighting.. | selec.. | worm |
| Niles....E | 3,000 | 140 | solid*... | 27.2 | lighting.. | selec.. | worm |
| Northway....B-2 | ..... | 160 | solid*... | 25.6 | s,l&i.... | selec.. | worm |
| Oneida....B-10 | 2,950 | 160 | solid.... | 25.6 | s&l..... | selec.. | worm |
| Packard....EC | 3,850 | 144 | solid.... | 29.0 | s,l&i-2... | selec.. | worm |
| Packard....EX | 4,650 | 144 | pneu.... | 29.0 | s,l&i-2... | selec.. | worm |
| Parker....F-20 | 3,500 | 150 | solid.... | 25.6 | s&l-2... | selec.. | worm |
| Pierce-Arrow....X-5 | 3,750 | 150 | solid.... | 25.6 | s,l&i-2... | selec.. | worm |
| Rainier....R-18 | 2,950 | 147 | solid.... | 27.2 | lighting... | selec.. | worm |
| Ranger....TK | 2,575 | 136 | pneu.... | 22.5 | ..... | selec.. | worm |
| Rowe....CEW | 3,300 | 140 | solid.... | 25.4 | none.... | selec.. | worm |
| Schacht.... | 3,550 | 156 | solid.... | 29.0 | ..... | selec.. | worm |
| Southern....20 | 2,990 | 150 | opt..... | 25.6 | none.... | selec.. | worm |
| Stewart....7 | 3,075 | 156 | solid.... | 27.2 | none.... | selec.. | worm |
| Stoughton....D | 2,800 | 140½ | solid.... | 25.6 | lighting.. | selec.. | worm |
| Sullivan....E | 3,350 | 150 | solid*... | 29.0 | ..... | selec.. | worm |
| Traffic....C | 1,595 | 132 | solid.... | 22.5 | none.... | selec.. | int-gear |
| Traylor....C | ..... | 138 | solid.... | 29.0 | ..... | selec.. | worm |
| Triangle....C | 2,700 | 147 | solid*... | 22.5 | s&l..... | selec.. | int-gear |
| Twin City....BW | 3,000 | 150 | solid*... | 25.6 | s&l-2... | selec.. | int-gear |
| Ultimate....A | 3,200 | 156 | solid*... | 25.6 | ..... | selec.. | worm |
| Ultimate....AJ | 3,200 | 156 | pneu.... | 29.0 | s&l..... | selec.. | worm |
| Vim....22 | 3,150 | 142 | solid.... | 22.5 | ..... | selec.. | worm |
| White....29 | 3,450 | 157½ | solid*... | 22.5 | ..... | selec.. | bevel |
| Wichita....M | 2,800 | 144 | solid*... | 22.5 | none.... | selec.. | worm |
| Winther....49 | 3,250 | 147 | solid.... | 25.6 | s&l-2... | selec.. | int-gear |

## TRUCKS OF 2½-TON CAPACITY

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Acason....H | $3,500 | 150 | solid*... | 30.6 | lighting.. | ind-c.. | worm |
| American....25 | 3,575 | 158 | solid*... | 25.6 | opt..... | selec.. | worm |
| Armleder....HW | ..... | 148 | solid*... | 29.0 | s&l-2... | selec.. | worm |
| Atco....A | ..... | 150 | solid*... | 29.0 | lighting.. | selec.. | worm |
| Atterbury....21-CX | ..... | 156 | solid.... | 27.2 | lighting.. | selec.. | worm |
| Available....H-2½ | 3,475 | 152 | solid*... | 25.6 | lighting.. | ind-c.. | worm |
| Bell....O | 2,750 | 156 | solid.... | 29.0 | none.... | selec.. | int-gear |
| Bessemer....J-2 | 3,285 | 156 | solid.... | 27.2 | ..... | selec.. | int-gear |
| Bridgeport....B | 2,850 | 156 | solid*... | 29.0 | ..... | selec.. | worm |
| Brinton....F | 3,400 | 150 | solid.... | 27.2 | none.... | selec.. | worm |
| Brockway....K-5 | ..... | 152 | solid.... | 27.2 | ..... | selec.. | worm |
| Capitol....H | 3,450 | 156 | solid.... | 29.0 | none.... | ind-c.. | worm |
| Capitol....K | 3,850 | 156 | pneu.... | 29.0 | s,l&i-2... | ind-c.. | worm |

**ABBREVIATIONS—Types of Construction**

*—with other options
**dbl-red**—double reduction drive
4—driving on all four wheels
**fric**—friction
**ind-c**—individual clutch, constant mesh
**int-gear**—internal gear
**plan**—planetary
**pneu**—pneumatic
**p&s**—pneumatic and solid
**prog**—progressive
**selec**—selective sliding gearset
**s, 1 & 1**—starting, lighting and ignition
**s. 1 & 1-2**—2-unit starting, lighting and ignition system
**s & 1-2**—2-unit starting and lighting system

## TRUCKS OF 2½-TON CAPACITY—Con.

| Name and Model | Chassis Price | Wheelbase, Inches | Tires | N.A.C.C. Horsepower | Electric System | Gearset Type | Final Drive |
|---|---|---|---|---|---|---|---|
| Chicago C-2½ | $2,800 | 156 | solid* | 25.6 | ..... | selec. | worm |
| Clydesdale 65-C | 3,550 | 163 | solid | 29.0 | s,l&i | selec. | worm |
| Clydesdale 65-EC | 3,775 | 163 | solid | 32.4 | s,l&i | selec. | worm |
| Corbitt B | 3,650 | 152 | solid | 27.2 | lighting | selec. | worm |
| Dart M | ..... | 150 | solid | 29.0 | s&l* | selec. | worm |
| D-E C | 3,150 | 150 | solid* | 29.0 | s&l-2 | selec. | worm |
| DeKalb E-2½ | 2,600 | 136 | solid* | 27.2 | none | selec. | worm |
| Dependable E | 2,950 | 157 | solid* | 29.0 | s&l | selec. | worm |
| Duplex A | 2,775 | 145 | pneu | 25.6 | s&l-2 | selec. | worm |
| Erie A | ..... | 150 | solid* | 29.0 | lighting | selec. | worm |
| Fageol | 3,900 | 144 | solid* | 29.0 | lighting | selec. | worm |
| Fageol Mds-½ | 3,900 | 150 | solid* | 18.2 | none | selec. | worm |
| Facto 1921 | 2,895 | 156 | solid | 29.0 | ..... | selec. | worm |
| Gary J | 3,150 | 148 | pneu* | 29.0 | none | selec. | worm |
| Gramm-Bernstein 25 | 3,575 | 150 | opt | 29.0 | s,l&i-2 | ind-c. | worm |
| Hahn EE | ..... | 144 | solid* | 32.4 | s,l&i | selec. | worm |
| Halfur B | 3,250 | 168 | solid* | 29.0 | s&l-2 | selec. | worm |
| Hall | 3,275 | 141 | solid | 27.2 | lighting | selec. | worm |
| Harvey WFA | 3,300 | 150 | solid | 29.0 | ..... | selec. | worm |
| Hendrickson I | 3,300 | 155 | opt | 29.0 | none | selec. | worm |
| Independent H | 3,285 | 148 | opt | 27.2 | ..... | prog. | worm |
| Indiana 25 | 3,150 | 156 | solid* | 27.2 | s&l | selec. | worm |
| Jumbo 25 | 3,450 | 152½ | solid | 29.0 | lighting | selec. | int-gear |
| Kalamazoo H-2 | ..... | 160 | solid | 25.6 | s&l-2 | selec. | worm |
| Karavan A | ..... | 148 | solid* | 29.0 | s&l-2 | selec. | worm |
| Kelly-Springfield K | 3,250 | 144 | solid | 22.5 | s&l-2 | selec. | worm |
| K-Z | 3,250 | 150 | solid | 27.2 | none | selec. | worm |
| Kissel F | 3,475 | 168 | solid | 29.0 | s,l&i-2 | selec. | worm |
| Kleiber B | 4,200 | 160 | solid | 32.4 | lighting | selec. | worm |
| Koehler M | 3,365 | 162 | solid | 25.6 | none | selec. | worm |
| Larrabee K | 3,400 | ... | solid | 27.2 | s,l&i-2 | selec. | worm |
| L. M. C 220 | 2,540 | 164 | solid | 27.2 | none | selec. | int-gear |
| Maccar H-2 | 3,750 | 162 | solid | 32.4 | none | selec. | worm |
| Menges B | 3,000 | 155 | solid | 32.4 | ..... | ..... | worm |
| Moreland 20-C | 3,900 | 168 | solid | 32.4 | none | selec. | worm |
| Mutual 2-DP | 4,150 | 152 | pneu | 25.6 | s&l-2 | ind-c. | worm |
| Netco H | 3,500 | 168 | solid* | 32.4 | lighting | selec. | worm |
| New York N | 3,300 | 144 | solid | 27.2 | none | ind-c. | worm |
| Noble D-50 | ..... | 162 | solid* | 29.0 | s&l-2 | selec. | worm |
| Ogden C-2 | 3,250 | 160 | opt | 27.2 | ..... | selec. | worm |
| O. K. LI | 3,450 | 150 | solid | 29.0 | s&l | selec. | worm |
| Orleans B | 3,250 | 166 | solid* | 25.6 | none | selec. | worm |
| Old Reliable B | 3,600 | 160 | solid | 29.0 | lighting | selec. | worm |
| Oneida C-9 | 3,390 | 160 | solid | 25.6 | s&l | selec. | worm |
| Patriot Washington | 3,450 | 156 | solid | 22.5 | s&l | selec. | worm |
| Paige 54-20 | 3,400 | 150 | solid | 29.0 | s&l-2 | selec. | worm |
| Pittsburger B | 3,700 | 160 | solid* | 27.2 | none | prog. | worm |
| Rainier R-20 | 3,650 | 170 | solid | 27.2 | lighting 2 | selec. | worm |
| Reliance 20-B | 3,200 | 156 | solid | 29.0 | lighting | ind-c. | ext-gear |
| Republic 19 | 2,795 | 144 | pneu | 27.2 | s&l | selec. | int-gear |
| Sandow J | 3,375 | 165 | solid | 27.2 | lighting | selec. | worm |
| Sanford W-25 | 3,350 | 156 | solid* | 27.2 | lighting | selec. | worm |
| Schacht | 3,850 | 156 | solid | 29.0 | ..... | selec. | worm |
| Schwartz CW | 3,200 | 150 | solid | 29.0 | lighting | selec. | worm |
| Selden 2½-A | ..... | 145 | solid | 27.2 | s&l-2 | selec. | worm |
| Service 51 | 3,475 | 160 | solid* | 29.0 | s&l | selec. | worm |
| Signal J | 3,275 | 150 | solid | 27.2 | none | selec. | worm |
| Standard 7( | 3,520 | 140 | solid* | 27.2 | none | selec. | worm |
| Sterling | ..... | 156 | solid* | 30.6 | s&l-2 | selec. | worm |
| Stewart 7 | 3,200 | 156 | solid | 29.0 | none | selec. | int-gear |
| Super-Truck 50 | 3,300 | 156 | solid* | 25.6 | lighting | selec. | worm |
| Tiffin F-25 | 3,580 | 148 | solid | 29.0 | s&l-2 | selec. | worm |
| Titan FS | 3,400 | 156 | solid* | 27.2 | lighting | ind-c. | int-gear |
| Tower H | 3,475 | 146 | solid | 27.2 | none | selec. | worm |
| Transport 50 | 2,785 | 150 | solid | 29.0 | l&i-2 | selec. | int-gear |
| Triangle B | 2,950 | 150 | solid* | 25.6 | lighting | selec. | int-gear |
| Union F | 3,150 | 155 | solid* | 25.6 | s&l-2 | selec. | int-gear |
| United B | 3,150 | 151 | solid* | 29.0 | s&l-2 | selec. | int-gear |
| Vulcan 25 | 4,000 | 148 | solid | 29.0 | lighting | selec. | worm |
| W-J B | 3,500 | 150 | solid* | 29.0 | lighting | selec. | worm |
| Ward-LaFrance 2-B | 3,590 | 170 | solid | 20.6 | s&l | selec. | worm |
| Western W-2½ | 3,250 | 154 | solid | 27.2 | lighting | selec. | worm |
| Western L-2½ | 3,250 | 154 | solid | 29.0 | lighting | selec. | worm |
| White Hickory K | ..... | 150 | solid | 27.2 | none | selec. | worm |
| Wichita R | 3,000 | 144 | solid* | 22.5 | none | selec. | worm |
| Wichita RX | 3,600 | 160 | solid* | 29.0 | none | selec. | worm |
| Wilcox Trux D | 3,300 | 150 | solid* | 29.0 | none | selec. | worm |
| Witt-Will P | 3,250 | 144 | solid* | 27.2 | none | selec. | worm |

## TRUCKS OF 3-TON CAPACITY

| Name and Model | Chassis Price | Wheelbase, Inches | Tires | N.A.C.C. Horsepower | Electric System | Gearset Type | Final Drive |
|---|---|---|---|---|---|---|---|
| Bethlehem H | $3,250 | 143 | solid* | 25.6 | s&l-2 | selec. | int-gear |
| Denby 25 | 3,600 | 149½ | solid | 27.2 | ..... | selec. | int-gear |
| Douglas | 3,500 | 144 | opt | 29.0 | s,l&i-2 | selec. | worm |
| F. W. D. B | ..... | 124 | solid | 36.1 | s&l-2 | ind-c. | bevel-4 |
| Packard ED | 4,900 | 156 | solid | 32.4 | s,l&i-2 | selec. | worm |
| Riker B | ..... | 150 | solid | 29.0 | s&l | selec. | worm |
| Rowe GSW | 4,150 | 158 | solid | 25.4 | none | selec. | worm |
| Rowe GPW | 5,250 | 170 | pneu | 33.8 | s,l&i-2 | selec. | worm |
| Schacht | 4,350 | 168 | solid | 29.0 | ..... | selec. | worm |
| Ultimate B&BL | 3,750 | 154 | solid* | 29.0 | ..... | selec. | worm |
| U. S. I | ..... | 156 | solid* | 25.2 | s,l&i-2 | selec. | worm |
| Traylor D | ..... | 150 | solid | 25,6 | ..... | selec. | worm |
| Vim 23 | 3,950 | 175 | solid | 29.0 | ..... | selec. | worm |
| Vulcan 25-P | 4,800 | 160 | solid | 29.0 | lighting | selec. | worm |

## TRUCKS OF 3½-TON CAPACITY

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Acason L | $4,500 | 180 | solid* | 30.6 | lighting | ind-c. | worm |
| Acme C | 2,050 | 168 | solid | 32.4 | s&l | ind-c. | worm |
| Armleder KW | ..... | 156 | solid* | 32.4 | lighting | selec. | worm |
| | | | | 32.4 | s,l&i | selec. | worm |
| Atterbury 21-D | ..... | 168 | solid | 32.4 | lighting | selec. | worm |
| Autocar XXVI-Y | 4,350 | 120* | solid | 29.0 | none | selec. | dbl-red |
| Autocar XXVI-B | 4,500 | 156 | solid | 29.0 | none | selec. | dbl-red |
| Available H-3½ | 4,475 | 176 | solid | 32.4 | lighting | selec. | worm |
| Brockway T | ..... | 174 | solid | 36.1 | s&l | selec. | worm |
| Capitol M | 4,150 | 168 | solid | 29.0 | s&l-2 | ind-c. | worm |
| Chicago C-3½ | 3,800 | 168 | solid | 32.4 | ..... | selec. | worm |
| Clydesdale 90-C | 4,400 | 190 | solid | 32.4 | s,l&i | selec. | worm |
| Corbitt A | 4,500 | 178 | solid | 32.4 | lighting | selec. | worm |
| Dart W | ..... | 160 | solid | 32.4 | s&l* | selec. | worm |
| D-E J | 3,950 | 165 | solid* | 32.4 | none | selec. | worm |
| Dependable G | 3,550 | 160 | solid | 32.4 | s&l | selec. | worm |
| Diamond-T K | 3,925 | 170 | solid | 29.0 | ..... | selec. | worm |
| Dorris K-7 | 4,400 | 174 | solid | 29.0 | s&l | selec. | worm |
| Duplex E | 4,250 | 130 | solid | 29.0 | none | selec. | int-gear |
| Fageol Heavy Duty | 4,900 | 172 | solid* | 29.0 | none | selec. | worm |
| Fageol | 5,000 | 172 | solid* | 32.4 | lighting | selec. | worm |
| Federal WE | 4,100 | 156 | solid | 32.4 | none | selec. | worm |
| Garford 77-D | ..... | 162 | solid | 32.4 | s&l-2 | selec. | worm |
| Gary KF | 4,050 | 162 | solid | 32.4 | none | selec. | worm |
| G. M. C 71 | 3,750 | 187 | solid | 32.4 | lighting | selec. | worm |
| Gramm-Bernstein 35 | 4,375 | 156 | opt | 32.4 | s,l&i-2 | ind-c. | worm |
| Hahn F | ..... | 165 | solid* | 32.4 | s&l | selec. | worm |
| Hall | 4,100 | 141 | solid | 32.4 | lighting | selec. | worm |
| Harvey WHA | 4,300 | 160 | solid | 32.4 | ..... | selec. | int-gear |
| Hawkeye N | 4,345 | 174 | solid* | 32.4 | s&l-2 | selec. | int-gear |
| Hendrickson J | 4,200 | 175 | opt | 29.0 | none | selec. | worm |
| Independent X | 4,285 | 160 | solid | 32.4 | ..... | prog. | worm |
| Indiana 35 | 3,750 | 160 | solid* | 30.6 | s&l | selec. | worm |
| International L | 4,500 | 160 | solid | 29.0 | ..... | selec. | int-gear |
| Jackson 4-WD | 4,250 | 150 | solid | 32.4 | s,l&i | selec. | bevel |
| Jumbo 35 | 4,550 | 165 | solid | 32.4 | lighting | selec. | int-gear |
| Kalamazoo K-2 | ..... | 160 | solid | 29.0 | s&l-2 | selec. | worm |
| Kelly-Springfield K-40 | 4,200 | 150 | solid | 32.4 | s&l-2 | selec. | chain |
| Kelly-Springfield K-41 | 4,200 | 156 | solid | 32.4 | s&l-2 | selec. | int-gear |
| Kelly-Springfield K-42 | 4,200 | 156 | solid | 32.4 | s&l-2 | selec. | worm |
| K-D | 4,250 | 156 | solid | 32.4 | none | selec. | worm |
| Kleiber C | 4,900 | 163 | solid | 32.4 | lighting | selec. | worm |
| Larrabee L | 4,200 | ... | solid | 32.4 | lighting | selec. | worm |
| Maccar M-2 | 4,500 | 174 | solid | 32.4 | none | selec. | worm |
| Mack AC | 4,950 | 168 | solid | 40.0 | s&l-2 | selec. | chain |
| Master A | 3,990 | 168 | solid | 32.4 | lighting* | selec. | worm |
| Menominee G | 4,270 | 160 | solid | 32.4 | lighting | ind-c. | worm |
| Moreland 20-G | 4,975 | 186 | solid | 36.1 | ..... | selec. | worm |
| Noble E-70 | ..... | 182 | solid | 32.4 | lighting | selec. | worm |
| Northway B-3 | 4,400 | 160 | solid | 25.6 | s,l&i | selec. | worm |
| O. K. M-1 | 4,250 | 160 | solid | 32.4 | s&l | selec. | worm |
| Old Reliable C | 4,500 | 160 | solid | 29.0 | lighting | selec. | worm |
| Oneida Da | 4,345 | 170 | solid | 32.4 | s&l | selec. | worm |
| Paige 51-18 | 4,285 | 160 | solid | 32.4 | s&l-2 | selec. | worm |
| Parker J-20 | 4,400 | 160 | solid | 32.4 | s&l-2 | selec. | worm |
| Pierce-Arrow W-2 | 4,950 | 162 | solid | 32.4 | s,l&i-2 | selec. | worm |

**ABBREVIATIONS—Types of Construction**

*—with other options
**dbl-red**—double reduction drive
**4**—driving on all four wheels
**fric**—friction
**ind-c**—individual clutch, constant mesh
**int-gear**—internal gear
**plan**—planetary
**pneu**—pneumatic
**p&s**—pneumatic and solid
**prog**—progressive
**selec**—selective sliding gearset
**s, l & i**—starting, lighting and ignition
**s, l & i-2**—2-unit starting, lighting and ignition system
**s & l-2**—2-unit starting and lighting system

## TRUCKS OF 3½-TON CAPACITY—Con.

| Name and Model | Chassis Price | Wheelbase, Inches | Tires | N.A.C.C. Horsepower | Electric System | Gearset Type | Final Drive |
|---|---|---|---|---|---|---|---|
| Rainier R-15 | $4,500 | 170 | solid | 32.4 | lighting 2 | selec. | worm |
| Republic 20 | 3,845 | 165 | pneu* | 32.4 | lighting. | selec. | int-gear |
| Sandow M | 4,395 | 175 | solid | 32.4 | lighting. | selec. | worm |
| Sanford W-35 | 4,200 | 174 | solid | 32.4 | lighting. | selec. | worm |
| Schacht | 4,350 | 168 | solid | 29.0 | ..... | selec. | worm |
| Selden 3½-A | ..... | 162 | solid | 32.4 | s&l-2 | selec. | worm |
| Service 71 | 4,285 | 171 | solid* | 29.0 | s&l | selec. | worm |
| Service 76 | 4,485 | 171 | solid | 32.4 | s&l | selec. | worm |
| Signal M | 4,275 | 168 | solid | 32.4 | none | selec. | worm |
| Standard 66 | 4,410 | 160 | solid | 32.4 | none | selec. | worm |
| Sterling | ..... | 162 | solid* | 32.4 | s&l-2 | ind-c. | worm |
| Stewart 10-X | 4,100 | 165 | solid | 32.4 | none | selec. | int-gear |
| Stewart 10-X | 4,100 | 165 | solid | 32.4 | none | selec. | int-gear |
| Sullivan H | 4,650 | 170 | solid | 32.4 | ..... | selec. | worm |
| Super-Truck 70 | 4,300 | 164 | solid | 27.2 | lighting. | selec. | worm |
| Tiffin F-3S | 4,760 | 160 | solid | 32.4 | s&l-2 | ind-c. | worm |
| Titan HF | 4,550 | 156 | solid* | 32.4 | lighting. | ind-c. | int-gear |
| Tower G | 4,400 | 165 | solid | 32.4 | none | selec. | worm |
| Transport 70 | 4,195 | 170 | solid | 32.4 | ..... | ind-c. | int-gear |
| Twin City AW | 4,400 | 168 | solid | 29.0 | s&l-2 | selec. | worm |
| United C | 3,975 | 157 | solid | 29.0 | s&l-2 | selec. | int-gear |
| Ward La-France 4-A | 4,600 | 162 | solid | 35.0 | s&l | selec. | worm |
| Watson N | 4,250 | 168 | solid | 32.4 | none | selec. | worm |
| Western W-3½ | 4,250 | 164 | solid | 32.4 | lighting. | selec. | worm |
| White 40 | 4,500 | 174 | solid | 22.5 | ..... | selec. | dbl-red |
| White Hickory M | ..... | 156 | solid | 32.4 | none | selec. | worm |
| Wichita O | 4,000 | 165 | solid* | 29.0 | none | selec. | worm |
| Wilcox-Trux E | 4,250 | 162 | solid* | 32.4 | none | selec. | worm |
| Winther 70 | 4,200 | 150 | solid | 25.6 | s&l-2 | selec. | int-gear |

## TRUCKS OF 4-TON CAPACITY

| Name and Model | Chassis Price | Wheelbase, Inches | Tires | N.A.C.C. Horsepower | Electric System | Gearset Type | Final Drive |
|---|---|---|---|---|---|---|---|
| American 40 | $4,575 | 158 | solid* | 32.4 | opt | selec. | worm |
| Bessemer K-2 | 4,285 | 175 | solid | 32.4 | ..... | selec. | int-gear |
| Bethlehem J | 4,195 | 162 | solid* | 32.4 | s&l-2 | selec. | int-gear |
| Bollstrom B-21 | 5,050 | 140 | solid | 32.4 | s&l | selec. | int-gear |
| Bollstrom A-20 | 6,000 | 135½ | pneu | 53.0 | s&l | selec. | int-gear |
| Bridgeport C | 3,650 | 170 | solid | 32.4 | none | selec. | worm |
| Denby 27 | 4,600 | 170 | solid | 32.4 | ..... | selec. | int-gear |
| Jumbo 40 | 5,200 | 165 | pneu | 32.4 | lighting. | selec. | int-gear |
| Kelly-Springfield K45 | 4,550 | 150 | solid | 32.4 | s&l-2 | selec. | chain |
| Kissel HD | 4,475 | 168 | solid | 29.0 | s,l&i-2 | selec. | worm |
| Packard ED | 4,900 | 156 | solid | 32.4 | s,l&i-2 | selec. | worm |
| Riker BB | ..... | 150 | solid | 29.0 | s&l | selec. | worm |
| Rowe HW | 4,500 | 158 | solid | 29.0 | none | selec. | worm |
| Traylor E | ..... | 168 | solid | 32.4 | ..... | selec. | worm |
| Union H | 3,975 | 174 | solid | 32.4 | s&l-2 | selec. | int-gear |
| U.S. S | ..... | 168 | solid* | 32.4 | s,l&i-2 | selec. | worm |

## TRUCKS OF 5-TON CAPACITY

| Name and Model | Chassis Price | Wheelbase, Inches | Tires | N.A.C.C. Horsepower | Electric System | Gearset Type | Final Drive |
|---|---|---|---|---|---|---|---|
| Acme E | $5,150 | 180 | solid | 36.1 | lighting. | ind-c. | worm |
| Atterbury S-E | ..... | 168 | solid | 36.1 | lighting. | selec. | worm |
| Available H-5 | 5,575 | 190 | solid | 36.1 | lighting. | selec. | worm |
| Brockway T | ..... | 174 | solid | 36.1 | s&l | selec. | worm |
| Chicago D-5 | 4,600 | 167 | solid | 32.4 | ..... | selec. | worm |
| Clydesdale 120-C | 5,500 | 204 | solid | 36.1 | s,l&i | selec. | worm |
| Corbitt AA | 5,500 | 178 | solid | 36.1 | lighting. | selec. | worm |
| D-E E | 4,950 | 170 | solid | 32.4 | lighting. | selec. | worm |
| Denby 210 | 5,350 | 170 | solid | 32.4 | ..... | selec. | nt-gear |
| Diamond-T EL | 4,615 | 180 | solid | 32.4 | ..... | selec. | worm |
| Diamond-T S | 4,800 | 180 | solid | 36.1 | ..... | selec. | worm |
| Fageol | 5,700 | 174 | solid | 32.4 | lighting. | selec. | worm |
| Federal XE | 4,750 | 156 | solid | 32.4 | none | selec. | worm |
| Garford 68 | ..... | 128 | solid | 36.1 | none | selec. | chain |
| Gary M | 5,150 | 182 | solid | 40.0 | none | selec. | worm |
| G. M. C 101 | 4,350 | 187 | solid | 32.4 | lighting. | selec. | worm |
| Gramm-Bernstein 5C | 5,275 | 168 | opt | 36.1 | s,l&i-2 | ind-c. | worm |
| Hall | 5,100 | 168 | solid | 32.4 | lighting. | selec. | worm |
| Harvey WKA | 5,200 | 160 | solid | 32.4 | ..... | selec. | worm |
| Indiana 51 | 4,775 | 170 | solid* | 40.0 | s&l | selec. | worm |
| Kelly-Springfield K-50 | 4,900 | 150 | solid | 32.4 | s&l-2 | selec. | chain |
| Kleiber D | 5,600 | 180 | solid | 40.0 | none | selec. | worm |
| Larrabee W | 5,100 | ... | solid | 36.1 | s,l&i-2 | selec. | worm |

## TRUCKS OF 5-TON CAPACITY—Con.

| Name and Model | Chassis Price | Wheelbase, Inches | Tires | N.A.C.C. Horsepower | Electric System | Gearset Type | Final Drive |
|---|---|---|---|---|---|---|---|
| Maccar G | $5,500 | 186 | solid | 36.1 | none | selec. | worm |
| Mack AC | 5,500 | 168 | solid | 40.0 | s&l-2 | selec. | chain |
| Master B | 4,990 | 170 | solid | 36.1 | s,l&i | selec. | worm |
| Menominee J-3 | 5,450 | 160 | solid | 36.1 | lighting. | ind-c. | worm |
| Moreland 20-J | 5,350 | 186 | solid | 36.1 | none | selec. | worm |
| Old Reliable D | 5,500 | 168 | solid | 36.1 | lighting. | selec. | worm |
| Oneida E-9 | 5,460 | 180 | solid | 32.4 | s&l | selec. | worm |
| Packard EY | 6,050 | 156 | pneu | 40.0 | s,l&i-2 | selec. | worm |
| Parker M-20 | 5,500 | 160 | solid | 36.1 | s&l-2 | selec. | worm |
| Pierce-Arrow R-10 | 5,700 | 168 | solid | 32.4 | s,l&i-2 | selec. | worm |
| Rainier R-17 | 5,250 | 170 | solid | 32.4 | lighting 2 | selec. | worm |
| Rowe FW | 5,500 | 170 | solid | 32.4 | none | selec. | worm |
| Sandow L | ..... | 175 | solid | 32.4 | ..... | selec. | worm |
| Sanford W-50 | 5,100 | 174 | solid | 36.1 | lighting. | selec. | worm |
| Schacht | 5,350 | 168 | solid | 32.4 | ..... | selec. | worm |
| Schwartz DW | 4,900 | 150 | solid | 32.4 | lighting. | selec. | worm |
| Selden 5-A | ..... | 164 | solid | 36.1 | s&l-2 | selec. | worm |
| Service 101 | 5,275 | 171½ | solid | 32.4 | s&l | selec. | worm |
| Signal R | 5,300 | 180 | solid | 36.1 | none | selec. | worm |
| Standard 5-K | 5,250 | 164 | solid | 36.1 | none | selec. | worm |
| Sterling | ..... | 168 | solid* | 40.0 | s&l-2 | ind-c. | worm |
| Sterling | ..... | 174 | solid | 40.0 | s,l&i | ind-c. | chain |
| Super-Truck 100 | 5,300 | 164 | solid | 36.1 | lighting. | selec. | worm |
| Tiffin F-5 | 5,850 | 168 | solid | 36.1 | s&l-2 | ind-c. | worm |
| United V | 5,100 | 160 | solid | 32.4 | s&l-2 | selec. | int-gear |
| Ward La-France 5-A | 5,590 | 164 | solid | 40.0 | s&l-2 | selec. | worm |
| Ware A | 3,000 | 135 | pneu* | 37.0 | s,l&i | ind-c. | bevel-4 |
| Walter S | 5,600 | 168 | solid | 32.4 | s&l | selec. | int-gear |
| White S | 5,000 | 174 | solid | 29.0 | ..... | selec. | dbl-red |
| Wichita S | 5,000 | 165 | solid | 32.4 | none | selec. | none |
| Wilcox F | 5,200 | 162 | solid | 36.1 | none | selec. | worm |
| Winther 109 | 5,250 | 162 | solid | 32.4 | s&l-2 | selec. | int-gear |

## TRUCKS OF 6-TON CAPACITY

| Name and Model | Chassis Price | Wheelbase, Inches | Tires | N.A.C.C. Horsepower | Electric System | Gearset Type | Final Drive |
|---|---|---|---|---|---|---|---|
| Bridgeport D | $5,600 | 172 | solid | 32.4 | ..... | selec. | worm |
| Kelly-Springfield K-60 | 5,100 | 150 | solid | 32.4 | s&l-2 | selec. | chain |
| Packard E | 5,500 | 156 | pneu | 40.0 | s,l&i-2 | selec. | worm |
| Tiffin X-60 | 6,050 | 168 | solid | 36.1 | s&l-2 | ind-c. | worm |
| Titan HD | 5,400 | 156 | solid | 32.4 | lighting. | ind-c. | int-gear |
| Union J | 5,450 | 193 | solid | 40.0 | s&l-2 | selec. | int-gear |
| U.S. T | ..... | 172 | solid | 36.1 | .. .... | selec. | worm |

## TRUCKS OF 6½-TON CAPACITY

| Name and Model | Chassis Price | Wheelbase, Inches | Tires | N.A.C.C. Horsepower | Electric System | Gearset Type | Final Drive |
|---|---|---|---|---|---|---|---|
| Mack AU | $5,750 | 168 | solid | 40.0 | s&l-2 | selec. | chain |

## TRUCKS OF 7-TON CAPACITY

| Name and Model | Chassis Price | Wheelbase, Inches | Tires | N.A.C.C. Horsepower | Electric System | Gearset Type | Final Drive |
|---|---|---|---|---|---|---|---|
| Available H-7 | $6,000 | 190 | solid | 40.0 | lighting. | selec. | dbl-red |
| Hall | 5,100 | 147 | solid | 32.4 | lighting. | selec. | chain |
| Old Reliable KLM | 6,250 | 136 | solid | 36.1 | none | selec. | chain |
| Winther 140 | 5,900 | 162 | solid | 40.0 | s&l-2 | selec. | int-gear |

## TRUCKS OF 7½-TON CAPACITY

| Name and Model | Chassis Price | Wheelbase, Inches | Tires | N.A.C.C. Horsepower | Electric System | Gearset Type | Final Drive |
|---|---|---|---|---|---|---|---|
| Mack AC | $6,000 | 168 | solid | 40.0 | s&l-2 | selec. | chain |
| Sterling | ..... | 174 | solid | 40.0 | s&l-2 | ind-c. | chain |

## TRACTORS

| Name and Model | Chassis Price | Wheelbase, Inches | Tires | N.A.C.C. Horsepower | Electric System | Gearset Type | Final Drive |
|---|---|---|---|---|---|---|---|
| Koehler MT | $3,095 | 129 | solid | 25.6 | none | selec. | worm |
| MacDonald A | 3,095 | opt | opt | 32.4 | none | selec. | int-gear |
| Mack AB | 3,400 | 120 | solid | 25.6 | s&l-2 | selec. | chain |
| Mack AC | 4,950 | 119 | solid | 40.0 | s&l-2 | selec. | chain |
| Mack AC | 5,500 | 119 | solid | 25.6 | s&l-2 | selec. | chain |
| Mack AC | 5,750 | 119 | solid | 40.0 | s&l-2 | selec. | chain |
| Mack | 6,000 | 119 | solid | 40.0 | s&l-2 | selec. | chain |
| Nye C | 3,000 | ... | solid | 16.9 | none | selec. | chain |

**ABBREVIATIONS—Types of Construction**

*—with other options
**dbl-red**—double reduction drive
**4**—driving on all four wheels
**fric**—friction
**ind-c**—individual clutch, constant mesh
**int-gear**—internal gear
**plan**—planetary
**pneu**—pneumatic
**p&s**—pneumatic and solid
**prog**—progressive
**selec**—selective sliding gearset
**s, 1 & 1**—starting, lighting and ignition
**s, 1 & 1-2**—2-unit starting, lighting and ignition system
**s & 1-2**—2-unit starting and lighting system

# Complete Mechanical Specifications of

## DETAILS OF 527 GASOLINE AND ONE STEAM MOTOR TRUCK

| Name and Model | Tons Capacity | Chassis Price | Wheelbase, Inches | FRAME: Make | FRAME: Material | FRAME: Type | TIRES: Kind | TIRES: Size in Ins. Front | TIRES: Size in Ins. Rear | WHEELS: Make | WHEELS: Type | ENGINE: Make | ENGINE: No. Cyl. Bore and Stroke—N.A.C.C. Hp. | ENGINE: Cylinders Cast | COOLING: Water Circ. | COOLING: RADIATOR: CASE: Make | COOLING: RADIATOR: CASE: Type | COOLING: RADIATOR: CORE: Make | COOLING: RADIATOR: CORE: Type | IGNITION: Type | IGNITION: Make | IGNITION: Spark Advance | ELEC. SYSTEM: Type | ELEC. SYSTEM: Make | ELEC. SYSTEM: Extra Cost $ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Acason.....H | 2½ | $3,500 | 150 | Savg.. | p-stl.. | s-flex.. | sol*... | 36x4 | 36x4d | Sth... | mt.... | Wau.. | 4-43-8x5½-30.6 | 2 | cent... | Natl.. | cst.... | Nat'.. | cel.... | sing... | Eismn. | hand.. | lghtg.. | Vesta. | 50 |
| Acason.....L | 3½ | 4,500 | 180 | Savg.. | p-stl.. | s-flex.. | sol*... | 36x5 | 36x5d | Sth... | mt.... | Wau.. | 4-43-8x5½-30.6 | 2 | cent... | Natl.. | cst.... | Nat'.. | cel.... | sing... | Eismn. | hand.. | lghtg.. | Vesta. | 50 |
| Acme.....G | ½ | 1,790 | 130 | Savg.. | p-stl.. | s-flex.. | pnu... | 34x5 | 34x5 | ..... | mt.... | Cont.. | 4-3½x5 -22.5 | 4 | ther... | G&O.. | sht.... | G&O.. | cel.... | sing... | Eismn. | hand.. | lghtg.. | G&D.. | .... |
| Acme.....B | 1 | 2,175 | 130 | Savg.. | p-stl.. | flex.... | sol.... | 34x3½ | 34x5 | Bim*.. | wd.... | Cont.. | 4-3½x5 -22.5 | 4 | ther... | G&O.. | sht.... | G&O.. | cel.... | sing... | Eismn. | hand.. | s&l... | G& D.. | 125 |
| Acme.....F | 1½ | 2,475 | 141 | Savg*. | p-stl.. | flex.... | sol.... | 34x3½ | 34x5 | Bim.. | wd.... | Cont.. | 4-3½x5 -22.5 | 4 | cent... | own... | cst.... | G&O.. | fin.... | sing... | Eismn. | hand.. | s&l... | Deco. | 125 |
| Acme.....A | 2 | 3,050 | 148 | P&B*. | p-stl.. | flex.... | sol.... | 36x4 | 36x7 | Bim... | wd.... | Cont.. | 4-4½x5½-27.2 | 4 | cent... | own... | cst.... | G&O.. | fin.... | sing... | Eismn. | hand.. | s&l... | Delco. | 185 |
| Acme.....C | 3½ | 4,050 | 168 | Smh*. | p-stl.. | flex.... | sol.... | 36x5 | 40x10 | Bim... | wd.... | Cont.. | 4-4½x5½-32.4 | 2 | cent... | own... | cst.... | G&O.. | fin.... | sing.. | Eismn. | hand.. | s&l... | Delco. | 185 |
| Acme.....E | 5 | 5,150 | 180 | Smh*. | p-stl.. | flex.... | sol.... | 36x6 | 40x12 | Sth... | mt.... | Cont.. | 4-4½x6 -36.1 | 2 | cent... | own... | cst.... | G&O.. | fin.... | sing.. | Eismn. | hand.. | lghtg.. | Delco. | 35 |
| Akron Multi-Truck...20 | 1 | ..... | 133 | Hyd.. | p-stl.. | flex.... | pnu... | 34x5 | 34x5 | Bim... | wd.... | Hink.. | 4-4 x5½-25.6 | 4 | cent... | Fed.. | prs.... | Fed.. | cel.... | sing.. | West.. | hand.. | sl&i... | West.. | .... |
| American.....25 | 2½ | 3,575 | 158 | Knox.. | p-stl.. | rigid.. | sol*... | 36x4 | 36x4d | Sth... | mt.... | Wsc... | 4-4 x6 -25.6 | 4 | cent... | G&O.. | cst.... | G&O.. | fin.... | sing... | Eismn. | auto... | opt.... | ..... | .... |
| American.....40 | 4 | 4,575 | 158 | Detrt. | p-stl.. | rigid.. | sol*... | 36x5 | 36x5d | Sth... | mt.... | Wsc... | 4-4½x6 -32.4 | 4 | cent... | G&O.. | cst.... | G&O.. | fin.... | sing... | Eismn. | auto... | opt.... | ..... | .... |
| Armleder.....20 | 1 | ..... | 148 | Smh.. | p-stl.. | flex.... | sol*... | 34x3½ | 34x5 | Roy*.. | wd.... | Buda.. | 4-3½x5½-22.5 | 4 | cent... | own... | cst.... | Long.. | fin.... | sing... | Bosch. | hand.. | s&l-2.. | West.. | .... |
| Armleder.....HW | 2½ | ..... | 148 | Smh.. | p-stl.. | flex.... | sol*... | 36x4 | 36x7 | Roy*. | wd.... | Buda* | 4-4½x5½*-28.9* | 4 | cent... | Long.. | cst.... | Long.. | fin.... | sing... | Bosch. | hand.. | s&l-2.. | West.. | .... |
| Armleder.....KW | 3½ | ..... | 156 | own... | rol-I.. | s-flex.. | sol.... | 36x5 | 36x5d | Crn... | wd.... | Buda* | 4-4½x6* -32.4* | 4 | cent... | own... | cst.... | Long.. | fin.... | sing... | Bosch. | hand.. | s&l-2.. | West.. | .... |
| Atco.....B | 1½ | ..... | 132 | own... | rol-c.. | s-flex.. | pnu*.. | 34x5 | 36x6 | Sth... | mt.... | Buda. | 4-3½x5½-22.5 | 4 | cent... | Chgo.. | cst.... | Chgo.. | fin.... | sing... | Eismn. | hand.. | sl&i-2. | West.. | 150 |
| Atco.....A | 2½ | ..... | 150 | P&B.. | p-stl.. | s-flex.. | sol*... | 36x4 | 36x8 | Sth... | mt.... | Buda. | 4-4½x5½-28.9 | 4 | cent... | Chgo.. | cst.... | Chgo.. | fin.... | sing... | Eismn. | hand.. | lghtg.. | Eismn. | 100 |
| Atlas (York).....21 | 1 | ..... | 130 | Pssh.. | p-stl.. | s-flex.. | pnu... | 32x4½ | 32x4½ | E&O.. | wd.... | Lyc... | 4-3½x5 -19.6 | 4 | ther... | Jstn.. | ..... | Jstn.. | cel.... | sing... | A-Knt | hand.. | sl&i.. | Bijur.. | none |
| Atterbury.....20-R | 1½ | ..... | 144 | Savg.. | p-stl.. | flex.... | sol.... | 34x3½ | 34x5 | Arch.. | wd.... | Cont.. | 4-3½x5 -22.5 | 4 | cent... | own... | cst.... | Long.. | fin.... | sing... | Berlg. | fixed.. | lghtg.. | Delco. | none |
| Atterbury.....21CX | 2½ | ..... | 156 | Savg.. | p-stl.. | flex.... | sol.... | 36x4 | 36x4d | Arch.. | wd.... | Cont.. | 4-4½x5½-27.2 | 4 | cent... | own... | cst.... | Long.. | fin.... | sing... | Berlg. | fixed.. | lghtg.. | Delco. | none |
| Atterbury.....21D | 3½ | ..... | 168 | Savg.. | p-stl.. | flex.... | sol.... | 36x5 | 40x5d | Arch.. | wd.... | Cont.. | 4-4½x5½-32.4 | 2 | cent... | own... | cst.... | Long.. | fin.... | sing... | Berlg. | hand.. | lghtg.. | Delco. | none |
| Atterbury.....8E | 5 | ..... | 168 | Savg.. | p-stl.. | flex.... | sol.... | 36x5 | 40x6d | Stn.. | mt.... | Cont.. | 4-4½x6 -36.1 | 2 | cent... | own... | cst.... | Long.. | fin.... | sing... | Berlg. | hand.. | lghtg.. | Delco. | none |
| Autocar.....XXI-UF | 2 | 2,300 | 97 | own... | p-stl.. | s-flex.. | sol*... | 34x4 | 34x5 | H&D.. | wd.... | own... | 2-4½x4½-18.1 | 1 | cent... | own... | sht.... | own... | fin.... | sing... | Bosch. | fixed.. | none.. | ..... | .... |
| Autocar.....XXI-UG | 2 | 2,400 | 120 | own... | p-stl.. | s-flex.. | opt.... | 34x4 | 34x5 | H&D.. | wd.... | own... | 2-4½x4½-18.1 | 1 | cent... | own... | sht.... | own... | fin.... | sing... | Bosch. | fixed.. | none.. | ..... | .... |
| Autocar.....XXVI-Y | 3½ | 4,350 | 120 | own... | p-stl.. | s-flex.. | sol.... | 34x5 | 36x10 | H&D.. | wd.... | own... | 4-4½x5½-28.9 | 4 | cent... | own... | cst.... | G&O.. | fin.... | sing... | Bosch. | hand.. | none.. | ..... | .... |
| Autocar.....XXVI-B | 3½ | 4,500 | 156 | own... | p-stl.. | s-flex.. | sol.... | 34x5 | 36x10 | H&D.. | wd.... | own... | 4-4½x5½-28.9 | 4 | cent... | own... | cst.... | G&O.. | fin.... | sing... | Bosch. | hand.. | none.. | ..... | .... |
| Available.....H-1½ | 1½ | 2,750 | 145 | own... | rol-c.. | s-flex.. | sol*... | 36x4 | 36x8 | Crn... | wd.... | Her... | 4-4 x5½-25.6 | 4 | cent... | Chgo.. | cst.... | Chgo.. | fin.... | sing... | Bosch. | hand.. | lghtg.. | West.. | 150 |
| Available.....H-2½ | 2½ | 3,475 | 152 | own... | rol-c.. | s-flex.. | sol*... | 36x4 | 36x8 | Crn... | wd.... | Her... | 4-4 x5½-25.6 | 4 | cent... | Chgo.. | cst.... | Chgo.. | fin.... | sing... | Bosch. | hand.. | lghtg.. | West.. | 150 |
| Available.....H-3½ | 3½ | 4,475 | 176 | own... | rol-c.. | s-flex.. | sol.... | 36x5 | 40x5d | Crn... | wd.... | Her... | 4-4½x5½-32.4 | 4 | cent... | Chgo.. | cst.... | Chgo.. | fin.... | sing... | Bosch. | hand.. | lghtg.. | West.. | 150 |
| Available.....H-5 | 5 | 5,575 | 190 | own... | rol-c.. | s-flex.. | sol.... | 36x6 | 40x12 | Sth... | mt.... | Her... | 4-4½x6 -36.1 | 2 | cent... | Chgo.. | cst.... | Chgo.. | fin.... | sing... | Bosch. | hand.. | lghtg.. | West.. | 150 |
| Available.....H-7 | 7 | 6,000 | 190 | own... | rol-c.. | s-flex.. | sol.... | 36x6 | 40x14 | Sth... | mt.... | Her... | 4-5 x6 -40.0 | 2 | cent... | Chgo.. | cst.... | Chgo.. | fin.... | sing... | Bosch. | hand.. | lghtg.. | West.. | 150 |
| Avery..... | 1 | ..... | 129 | own... | p-stl.. | rigid.. | pnu... | 34x5 | 34x5 | own.. | wd.... | own... | 3-3 x4 -21.6 | 6 | ther... | own... | cst.... | Pfx.. | cel.... | sing... | K-W.. | hand.. | sl&i. | West.. | none |
| Bell.....E | 1½ | 2,250 | 136 | own... | rol-c.. | rigid.. | sol.... | 34x3½ | 34x5 | Bim.. | wd.... | Buda.. | 4-3½x5½-16.9 | 4 | cent... | Chgo.. | cst.... | Chgo.. | fin.... | sing... | Eismn. | hand.. | ..... | none.. | 100 |
| Bell.....O | 2½ | 2,750 | 156 | own... | rol-c.. | rigid.. | sol.... | 34x4 | 34x7 | Bim... | wd.... | Buda | 4-4½x5½-28.9 | 4 | cent... | Chgo. | cst.... | Chgo.. | fin.... | sing... | Eismn. | hand. | ..... | none.. | 100 |
| Bessemer.....G | 1 | 1,825 | 124 | P&B.. | p-stl.. | flex.... | pnu... | 35x5 | 35x5 | Way.. | wd.... | Cont.. | 4-3½x5 -29.4 | 4 | ther.. | own... | cst.... | Stn.. | cel.... | sing... | Bosch. | hand. | ..... | Eismn. | .... |
| Bessemer.....H2 | 1½ | 2,445 | 144 | P&B.. | p-stl.. | flex.... | sol.... | 36x3½ | 36x5 | Way.. | wd.... | Cont.. | 4-3½x5 -22.5 | 4 | ther... | own... | cst.... | Stn.. | cel.... | sing... | Bosch. | hand. | ..... | Eismn. | .... |
| Bessemer.....J2 | 2½ | 3,285 | 156 | P&B.. | p-stl.. | flex.... | sol.... | 36x4 | 36x4 | Way.. | wd.... | Cont.. | 4-4½x5½-27.2 | 4 | cent... | own... | cst.... | Stn.. | cel.... | sing... | Bosch. | hand. | ..... | Eismn. | .... |
| Bessemer.....K2 | 4 | 4,285 | 175 | Pgh.. | p-stl.. | flex.... | sol.... | 36x6 | 36x10 | Sth... | mt.... | Cont.. | 4-4½x5½-32.4 | 4 | cent... | own... | cst.... | ..... | ..... | sing... | Bosch. | hand. | ..... | none.. | .... |
| Bethlehem.....K | 1 | 1,695 | 125 | Drt... | p-stl.. | flex.... | pnu... | 34x4½ | 35x5 | Way.. | wd.... | own... | 4-3½x5 -19.6 | 4 | ther... | H&K.. | prs.... | Lvgn.. | cel.... | sing... | Bosch. | hand. | s&l-2.. | G&D | none |
| Bethlehem.....G | 2 | 2,725 | 135 | Drt... | p-stl.. | flex.... | sol*... | 34x3½ | 34x6 | Way.. | wd.... | own... | 4-4 x5½-25.6 | 4 | ther... | own... | cst.... | Lvgn.. | cel.... | sing... | Bosch. | hand. | s&l-2.. | G&D | none |
| Bethlehem.....H | 3 | 3,250 | 143 | Drt... | p-stl.. | flex.... | sol*... | 36x4 | 36x8 | Sth... | mt.... | own... | 4-4 x5½-25.6 | 4 | ther... | own... | cst.... | Lvgn.. | cel.... | sing... | Bosch. | hand. | s&l-2.. | G&D | none |
| Bethlehem.....J | 4 | 4,195 | 162 | Drt... | p-stl.. | flex.... | sol*... | 36x5 | 36x5d | Sth... | mt.... | own... | 4-4½x5½-32.4 | 4 | ther... | own... | cst.... | Lvgn.. | cel.... | sing... | Bosch. | hand. | s&l-2.. | G&D | none |
| Ballstrom.....B-21 | 4 | 5,050 | 140 | own... | r-stl.. | s-flex.. | sol.... | 36x7 | 36x7 | Clrk.. | mt.... | Hink.. | 4-4½x5½-32.4 | 4 | cent... | own... | cst.... | Lng.. | tube.. | sing... | Eismn. | hand. | s&l.. | Rem.. | 80 |
| Ballstrom.....A-20 | 4 | 6,000 | 135 | own... | rel-c.. | rigid.. | pnu... | 40x8 | 40x8 | Clrk.. | mt.... | Wsc... | 4-5½x7 -52.9 | 2 | cent... | own... | cst.... | Lng.. | fin.... | dual.. | Eismn. | hand. | s&L.. | L-N.. | .... |
| Bridgeport.....A | 1½ | 2,350 | 144 | own... | rol-c.. | flex.... | sol*... | 34x3 | 34x6 | Arch.. | wd.... | Buda | 4-3½x5½-22.5 | 4 | cent... | Chgo. | cst.... | Chgo. | fin.... | sing... | Eismn. | hand. | ..... | ..... | .... |
| Bridgeport.....B | 2½ | 2,850 | 156 | own... | rol-c.. | flex.... | sol*... | 36x4 | 36x7 | Arch.. | wd.... | Buda. | 4-4½x5½-28.9 | 4 | cent... | own... | cst.... | G&O.. | cel.... | sing... | Eismn. | hand. | none.. | ..... | .... |
| Bridgeport.....C | 4 | 3,650 | 170 | own... | p-stl.. | ..... | sol.... | 36x5 | 36x5d | Arch.. | wd.... | Buda | 4-4½x6 -32.4 | 4 | cent... | own... | cst.... | G&O.. | cel.... | sing... | Eismn. | hand. | none.. | ..... | .... |
| Bridgeport.....D | 6 | 4,500 | 172 | own... | p-stl.. | ..... | sol.... | 36x6 | 36x6d | Arch.. | wd.... | Buda | 4-4½x6 -32.4 | 4 | cent... | own... | cst.... | G&O.. | cel.... | sing... | Eismn. | hand. | ..... | ..... | .... |
| Brinton.....F | 2½ | 3,400 | 150 | own... | rol-c.. | rigid.. | sol.... | 36x4 | 36x6 | Sch... | wd.... | Cont.. | 4-4½x5½-27.2 | 4 | g-p... | Bush.. | sht.... | Bush.. | fin.... | sing... | Bosch. | fixed.. | none.. | ..... | .... |
| Brockway.....S4 | 1½ | ..... | 140 | own... | p-stl.. | s-flex.. | opt.... | 36x3½ | 36x5 | H&D.. | wd.... | Cont.. | 4-3½x5 -22.5 | 4 | cent... | Bush.. | cst.... | Bush.. | fin.... | sing... | Eismn. | hand. | s&l.. | Dneto. | .... |
| Brockway.....K5 | 2½ | ..... | 152 | own... | p-stl.. | s-flex.. | sol.... | 36x4 | 36x7 | H&D.. | wd.... | Cont.. | 4-4½x5½-27.2 | 4 | cent... | Bush.. | cst.... | Bush.. | fin.... | sing... | Eismn. | hand. | ..... | Dneto. | .... |
| Brockway.....R4 | 3½ | ..... | 164 | own... | p-stl.. | s-flex.. | sol.... | 36x5 | 36x5d | Sth... | mt.... | Cont.. | 4-4½x5½-32.4 | 2 | cent... | Bush.. | cst.... | Bush.. | fin.... | sing... | Eismn. | hand. | s&l.. | Dneto. | .... |
| Brockway.....T | 5 | ..... | 174 | own... | p-stl.. | s-flex.. | sol.... | 36x6 | 40x6d | Sth... | mt.... | Cont.. | 4-4½x6 -36.1 | 2 | cent... | Long.. | cst.... | Long.. | fin.... | sing... | Eismn. | hand. | s&l.. | none.. | .... |
| Capitol.....G | 1½ | 2,975 | 144 | own... | rol-c.. | s-flex.. | pnu... | 35x5 | 38x7 | Ames.. | wd.... | Wsc... | 4-3½x5 -22.5 | 4 | cent... | G&O.. | cst.... | G&O.. | fin.... | sing... | Eismn. | hand. | sl&i-2. | West. | none |
| Capitol.....H | 2½ | 3,700 | 156 | own... | rol-c.. | s-flex.. | sol.... | 36x4 | 36x8 | ..... | wd.... | Wsc... | 4-4½x6 -27.6 | 4 | cent... | G&O.. | cst.... | G&O.. | fin.... | sing... | Bosch. | hand. | none.. | ..... | .... |
| Capitol.....K | 2½ | 4,250 | 156 | own... | rol-c.. | s-flex.. | pnu... | 36x6 | 42x9 | ..... | wd.... | Wsc... | 4-4½x6 -27.6 | 4 | cent... | G&O.. | cst.... | G&O.. | fin.... | sing... | Bosch. | hand. | sl&i-2. | West. | none |
| Capitol.....M | 3½ | 4,425 | 168 | own... | rol-c.. | s-flex.. | sol.... | 36x5 | 36x10 | Sth... | mt.... | Wsc... | 4-4½x6 -27.6 | 4 | cent... | G&O.. | cst.... | G&O.. | fin.... | sing... | Bosch. | hand. | sl&i-2. | West. | 170 |
| Chevrolet.....G | ¼ | 820 | 120 | own... | p-stl.. | rigid.. | pnu... | 31x4 | 34x4½ | own.. | wd.... | own... | 4-3½x4-22.5 | 4 | cent... | Har.. | prs.... | Har.. | cel.... | dbl... | Remy. | hand. | sl&i-2. | Aut-L | .... |
| Chevrolet.....T | 1 | 1,325 | 125 | own... | rol-c.. | rigid.. | pnu... | 33x4 | 35x5 | own.. | wd.... | own... | 4-3½x5½-22.5 | 4 | cent... | Har.. | prs.... | Har.. | cel.... | dbl... | Remy. | hand. | sl&i-2. | Aut-L | .... |
| Chicago.....C1½ | 1½ | 2,450 | 144 | own... | rol-c.. | flex.... | sol*... | 36x3½ | 36x5 | Stn... | wd.... | Her... | 4-3½x5½-22.5 | 4 | cent... | own... | cst.... | Brem.. | fin.... | sing... | Bosch. | fixed. | ..... | ..... | .... |
| Chicago.....C2½ | 2½ | 2,800 | 156 | own... | rol-c.. | s-flex.. | sol*... | 36x4 | 36x7 | ..... | cst.... | Her... | 4-4 x5½-25.6 | 4 | cent... | own... | cst.... | Brem.. | fin.... | sing... | Bosch. | fixed. | ..... | ..... | .... |
| Chicago.....C3½ | 3½ | 3,800 | 168 | own... | rol-c.. | ..... | sol.... | 36x5 | 36x10 | Stn... | cst.... | Her... | 4-4½x5½-32.4 | 4 | cent... | own... | cst.... | Brem.. | fin.... | sing... | Bosch. | fixed. | ..... | ..... | .... |
| Chicago.....D5 | 5 | 4,600 | 167 | own... | rol-c.. | s-flex.. | sol.... | 36x6 | 40x12 | Stn... | cst.... | Her... | 4-4½x5½-32.4 | 4 | cent... | own... | cst.... | Brem.. | fin.... | sing... | Bosch. | hand. | ..... | ..... | .... |
| Climber.....A | 1½ | 2,450 | 146 | Savg.. | p-stl.. | s-flex.. | pnu*.. | 36x6 | 38x7 | Roy... | wd.... | H-S... | 4-3½x5 -19.6 | 4 | ther... | Chgo.. | cst.... | Chgo.. | fin.... | sng... | A-Knt | hand. | sl&i-2. | West. | none |

### ABBREVIATIONS—Types of Construction

*—other options
**amid**—amidships
**auto**—automatic
**bevl**—bevel
**cel**—cellular
**cent**—centrifugal
**chn**—chain
**cst**—cast
**ctr**—center
**cylinders cast, 2 in pairs**
**cylinders cast, 4 in block**
**cylinders cast, 3 in threes**
**cylinders cast, 1 singly**
**cyl-ends**—cylinder-ends
**d**—dual
**d-d**—dry-disk
**d-p**—dry-plate
**dplx**—from both motor & driveshaft
**d-rd**—double reduction
**d-s**—drive-shaft
**elec**—electric
**ext-d-s**—external drive-shaft
**ext-f-w**—external front wheel
**ext-g**—external gear
**ext-jst** — external jack-shaft
**ext-r-w**—external rear wheel
**fab**—fabric
**fin**—finned tube
**flex**—flexible
**f-m**—fabric & metal
**fric**—friction
**g-p**—gear pump
**grv**—gravity
**gset**—from gearset
**hyd**—hydraulic
**ind-c**—individual clutch
**int-g**—internal gear
**int-g-4** — internal gear drive on 4 wheels
**int-r-w**—internal rear wheel
**jst**—unit with jackshaft
**l**—left
**l-b**—loose ball
**lghtg**—lighting only
**mtr**—unit with motor
**mt**—metal (wheels)
**mtl**—metal (universal joint)
**opt**—optional
**pist**—piston pump
**plan**—planetary
**pin**—plain tube
**pnu**—pneumatic
**pres**—pressure
**prog**—progressive
**prs**—pressed steel
**p&s**—pneumatics in front solids in rear
**p-stl**—pressed steel
**r**—right
**r&c**—right & center
**r-rd**—radius rods
**rol-c**—rolled channel
**rol-i**—rolled I-beam
**selec**—selective
**s-flex**—semi-flexible
**s-fr**—sub-frame
**sht**—sheet
**s&l**—starting & lighting
**sl&i-2**—starting, lighting & ignition, 2 unit
**sol**—solid
**sprgs**—springs
**sq-t**—square tube
**start**—starting only
**suct**—suction
**t-arm**—torque arm
**ther**—thermo-syphon
**t-p**—two-point
**t-t**—torsion tube
**vac**—vacuum
**wat-tube**—water tube
**wd**—wood
**w-d**—multiple disk in oil
**w-p**—plate in oil
**wr**—wire
**zz-t**—zig-zag tube

### ABBREVIATIONS—Makers of Parts.

*Other Options
**A-Knt**—Atwater-Kent
**Al-Ch**—Allis-Chalmers
**Amer** — American Magneto Co.
**Arch**—Archibald
**Aut-L**—Auto-Lite
**Auto**—Auto Wheel Co.
**B-Beck**—Borg & Beck
**BCA**—Bearings Co. of Am.
**Berlg**—Berling
**Bim**—Bimel
**Bl&Fl**—Blood & Flexite
**B-Lipe**—Brown-Lipe
**Blood**—Blood Bros.
**Bl&P**—Blood & Peters
**Bl&Sp**—Blood & Spicer
**B-M**—Bucyrus Mach. Tool
**Brem**—Bremer
**Cart**—Carter carburetor
**Cas**—G. M. Castle
**CAS**—C. A. S. products
**C-D**—Curran-Detroit Radiator Co.
**Chgo**—Chicago Mfg. Co
**Chic**—Chicago Standard
**Chmp**—Champion Auto Spring Co.
**Clrk**—Clark Equip. Co.
**Coen**—Corcoran Radiator Co.
**Col**—Columbia Axle Co.
**Cont**—Continental motor
**Conn**—Connecticut
**Crn**—Crane & MacMahon
**Crn-S**—Crane & MacMahon and Standard
**Day**—Dayton wheel
**Detlaf**—Detlaff
**Det** — Detroit Wheel & Rim
**Detrt**—Detroit G. & M.
**Ditl**—Disteel Wheel Co.
**Ditw**—Ditwiler Mfg. Co.
**Dnet**—Dyneto

# All Makes of 1921 Gasoline Motor Trucks

## CHASSIS AS PRODUCED BY 176 AMERICAN TRUCK MANUFACTURERS

| ENGINE | | | | | | | | | TRANSMISSION | | | | | | | | |

# Complete Mechanical Specifications of

| Name and Model | Tons Capacity | Chassis Price | Wheelbase, Inches | FRAME | | | TIRES | | | WHEELS | | ENGINE | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Size in Ins. | | | | | | | COOLING | | | | | IGNITION | | | ELEC. SYSTEM | | | | |
| | | | | | | | | | | | | | | | | RADIATOR | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | CASE | | CORE | | | | | | | | | | |
| | | | | Make | Material | Type | Kind | Front | Rear | Make | Type | Make | No. Cyl. Bore and Stroke—N.A.C.C. Hp. | Cylinders Cast | Water Circ. | Make | Type | Make | Type | Type | Make | Spark Advance | Type | Make | Extra Cost $ |
| Clydesdale | 32C | 1 | 2,375 | 144 | P&B | p-stl | s-flex | sol* | 34x3½ | 34x5 | Bim | wd | own | 4-4½x5 -22.5 | 4 | cent | own | cst | own | pln | sing | Bosch | hand | sl&i | West | 150 |
| Clydesdale | 42C | 1½ | 2,750 | 146 | P&B | p-stl | flex | sol | 36x3½ | 36x5 | Bim | wd | own | 4-4½x5 -22.5 | 4 | cent | own | cst | own | pln | sing | Bosch | hand | sl&i | West | 150 |
| Clydesdale | 65C | 2½ | 3,540 | 163 | P&B | p-stl | flex | sol | 36x4 | 36x7 | Sth | mt | own | 4-4½x5½-29.0 | 4 | cent | own | cst | own | pln | sing | Bosch | hand | sl&i | West | 150 |
| Clydesdale | 65EC | 2½ | 3,775 | 163 | P&B | p-stl | flex | sol | 36x4 | 36x7 | Sth | mt | own | 4-4½x5½-32.4 | 4 | cent | own | cst | own | pln | sing | Bosch | hand | sl&i | West | 160 |
| Clydesdale | 90C | 3½ | 4,400 | 190 | P&B | p-stl | flex | sol | 36x5 | 40x10 | Sth | mt | own | 4-4½x5½-32.4 | 4 | cent | own | cst | own | pln | sing | Bosch | hand | sl&i | West | 160 |
| Clydesdale | 120C | 5 | 5,500 | 204 | P&B | p-stl | flex | sol | 36x6 | 40x12 | Sth | mt | own | 4-4½x6 -36.1 | 2 | cent | own | cst | own | pln | sing | Bosch | hand | sl&i | West | 170 |
| Commerce | T | ¾ | 1,350 | 127 | Drt | rol-c | | pnu | 34x4½ | 34x4½ | Bim | wd | Cont | 4-3½x5 -22.5 | 4 | ther | Long | cst | Long | fin | sing | Eismn | fixed | s&l | Bijur | none |
| Commerce | E | 1 | 1,990 | 126 | Drt | p-stl | flex | pnu | 35x5 | 35x5 | Bim | wd | Cont | 4-3½x5 -22.5 | 4 | ther | Long | cst | Long | fin | sing | Eismn | fixed | lghtg | Bijur | none |
| Commerce | EP | 1½ | 2,250 | 134 | Drt | p-stl | flex | pnu | 36x6 | 36x6 | Bim | wd | Cont | 4-3½x5 -22.5 | 4 | ther | Long | cst | Long | fin | sing | Eismn | fixed | lghtg | Bijur | none |
| Cook | 41 | 2 | 3,000 | 95 | own | p-stl | flex | pnu | 36x6 | 38x7 | Crn | wd | Her | 4-4 x5½-25.6 | 4 | cent | Chgo | cst | Chgo | fin | sing | Berlg | hand | lghtg | G&D | none |
| Corbitt | E | 1 | 2,400 | 130 | own | rol-c | s-flex | sol | 34x3½ | 34x4 | Bim | wd | Cont | 4-3½x5 -22.5 | 4 | ther | MeC | cst | MeC | fin | sing | Eismn | hand | sl&i-2 | G&D | 150 |
| Corbitt | D | 1½ | 2,800 | 140 | own | rol-c | s-flex | sol | 36x3½ | 36x5 | Bim | wd | Cont | 4-3½x5 -22.5 | 4 | ther | MeC | cst | MeC | fin | sing | Eismn | hand | sl&i-2 | G&D | 150 |
| Corbitt | C | 2 | 3,500 | 148 | own | rol-c | s-flex | sol | 36x3½ | 36x7 | Bim | wd | Cont | 4-4½x5½-27.2 | 4 | cent | MeC | cst | MeC | fin | sing | Eismn | hand | lghtg | Eismn | 75 |
| Corbitt | B | 2½ | 3,650 | 152 | own | rol-c | s-flex | sol | 36x4 | 36x7 | Bim | wd | Cont | 4-4½x5½-27.2 | 4 | cent | MeC | cst | MeC | fin | sing | Eismn | hand | lghtg | Eismn | 75 |
| Corbitt | A | 3½ | 4,500 | 178 | own | rol-c | s-flex | sol | 36x5 | 36x10 | Sth | mt | Cont | 4-4½x5½-32.4 | 2 | cent | MeC | cst | MeC | fin | sing | Eismn | hand | lghtg | Eismn | 75 |
| Corbitt | AA | 5 | 5,500 | 178 | own | rol-c | rigid | sol | 36x6 | 40x6d | Sth | mt | Cont | 4-4½x6 -36.1 | 2 | cent | MeC | cst | MeC | fin | sing | Eismn | hand | lghtg | Eismn | none |
| D-E | A | 1 | 2,100 | 128 | Savg | p-stl | s-flex | sol* | 34x3½ | 34x4 | Jns | wd | Cont | 4-3½x5 -22.5 | 4 | ther | Bush | cst | Bush | fin | sing | Eismn | hand | s&l-2 | West | 155 |
| D-E | B | 1½ | 2,300 | 144 | Savg | p-stl | s-flex | sol* | 34x3½ | 34x5 | Jns | wd | Cont | 4-3½x5 -22.5 | 4 | ther | Bush | cst | Bush | fin | sing | Eismn | hand | s&l-2 | West | 155 |
| D-E | D | 2 | 2,750 | 144 | Savg | p-stl | s-flex | sol* | 36x4 | 36x7 | Jns | wd | Cont | 4-4½x5½-27.3 | 4 | cent | Bush | cst | Bush | fin | sing | Eismn | hand | s&l-2 | West | 155 |
| D-E | C | 2½ | 2,950 | 150 | Savg | p-stl | s-flex | sol* | 36x4 | 36x7 | Jns | wd | Buda | 4-4½x5 -29.0 | 4 | cent | Bush | cst | Bush | fin | sing | Eismn | hand | s&l-2 | West | 155 |
| D-E | F | 3½ | 3,750 | 165 | Savg | p-stl | s-flex | sol* | 36x5 | 36x5d | Jns | wd | Cont | 4-4½x5½-32.4 | 2 | cent | Bush | cst | Bush | fin | sing | Eismn | hand | none | | |
| D-E | E | 5 | 4,600 | 170 | Savg | p-stl | s-flex | sol | 36x5 | 36x6d | Jns | wd | Buda | 4-4½x6 -32.4 | 4 | cent | Bush | cst | Bush | fin | sing | Eismn | hand | lghtg | Eismn | 105 |
| Dearborn | F | 1½ | 2,180 | 124 | Savg | p-stl | s-flex | sol* | 34x4 | 34x5 | Crn | wd | Buda | 4-3½x5½-22.5 | 4 | ther | Chgo | cst | Chgo | fin | sing | Bosch | hand | none | | |
| Dearborn | 48 | 2 | 2,590 | 148 | Cas | rol-c | s-flex | pnu | 35x5 | 34x7 | Crn | wd | Buda | 4-3½x5½-22.5 | 4 | ther | Chgo | cst | Chgo | fin | sing | Bosch | hand | none | | |
| Defiance | D | 1½ | 2,550 | 140 | Drt | p-stl | flex | pnu | 35x5 | 36x6 | Crn | wd | Hghy | 4-3½x5 -22.5 | 4 | cent | Pfx | cst | Pfx | cel | sing | Eismn | hand | s&l-2 | Aut-L | 150 |
| Defiance | E | 2 | 2,750 | 140 | Drt | p-stl | flex | pnu | 35x5 | 38x7 | Crn | wd | Hghy | 4-3½x5 -22.5 | 4 | cent | Pfx | cst | Pfx | cel | sing | Eismn | hand | s&l-2 | Aut-L | 150 |
| DeKalb | E2 | 2 | 2,250 | 134 | Prsh | p-stl | flex | sol* | 34x3½ | 36x5 | Sch | wd | Cont | 4-4½x5½-27.2 | 4 | cent | Jck | sht | Jck | pln | sing | Eismn | hand | none | | |
| DeKalb | E2½ | 2½ | 2,600 | 136 | Prsh | p-stl | flex | sol* | 36x4 | 36x6 | Sch | wd | Cont | 4-4½x5½-27.2 | 4 | cent | Jck | sht | Jck | pln | sing | Eismn | hand | none | | |
| Dependable | A | 1 | 1,650 | 134 | Cas | p-stl | flex | pnu | 34x5 | 36x6 | Bim | wd | H-S | 4-3½x5 -19.6 | 4 | ther | Lng | cst | Lng | cel | sing | Spltf | hand | s&l | Aut-L | none |
| Dependable | C | 1½ | 2,350 | 128 | Prsh | p-stl | flex | sol* | 34x3½ | 34x5 | Bim | wd | Buda | 4-3½x5½-22.5 | 4 | cent | Lng | cst | Lng | fin | sing | Spltf | hand | s&l | West | |
| Dependable | D | 2 | 2,650 | 128 | Prsh | p-stl | flex | sol | 34x5 | 36x6 | Bim | wd | Buda | 4-4 x5½-25.6 | 4 | cent | Lng | cst | Lng | fin | sing | Spltf | hand | s&l | West | |
| Dependable | E | 2½ | 2,950 | 157 | Prsh | p-stl | flex | sol* | 36x4 | 36x7 | Bim | wd | Buda | 4-4½x5½-29.0 | 4 | cent | Lng | cst | Lng | fin | sing | Spltf | hand | s&l | West | |
| Dependable | G | 3½ | 3,550 | 160 | Cas | p-stl | flex | sol | 36x6 | 38x7 | Bim | wd | Buda | 4-4½x6 -32.4 | 4 | cent | Lng | cst | Lng | fin | sing | Spltf | hand | s&l | West | |
| Diamond-T | T | 1½ | 2,450 | 144 | Smh | p-stl | | sol | 36x3½ | 36x5 | | wd | Hink | 4-3½x5½-32.4 | 4 | cent | G&O | cst | G&O | fin | sing | Bosch | hand | | | |
| Diamond-T | U | 2 | 2,835 | 160 | Smh | p-stl | s-flex | sol | 36x4 | 36x7 | | wd | Hink | 4-4 x5½-25.6 | 4 | cent | G&O | cst | G&O | fin | sing | Bosch | hand | | | |
| Diamond-T | K | 3½ | 3,925 | 170 | Smh | p-stl | s-flex | sol | 36x5 | 36x5d | | wd | Hink | 4-4½x5½-29.0 | 4 | cent | G&O | cst | G&O | fin | sing | Bosch | hand | | | |
| Diamond-T | EL | 5 | 4,615 | 180 | Smh | p-stl | s-flex | sol | 36x6 | 40x6d | | wd | Hink | 4-4½x5½-32.4 | 4 | cent | G&O | cst | G&O | fin | sing | Bosch | hand | | | |
| Diamond-T | S | 5 | 4,800 | 180 | Smh | p-stl | | sol | 36x6 | 40x6d | | wd | | 4-4½x6 -36.1 | 4 | cent | G&O | cst | G&O | fin | sing | Bosch | hand | | | |
| Dodge | C | ½ | 1,085 | 114 | Drt | p-stl | flex | pnu | 33x4 | 34x4 | Kel | wd | own | 4-3½x4½-15.6 | 4 | cent | MeC | cst | MeC | pln | sing | N-E | auto | sl&i | N-E | |
| Dorris | K-4 | 2 | 3,400 | | Smh | p-stl | flex | sol | 36x4 | 36x7 | Sth | mt | own | 4-4½x5½-29.0 | 4 | cent | own | cst | MeC | fin | sing | Bosch | hand | s&l | West | 175 |
| Dorris | K-7 | 3½ | 4,400 | 174 | Smh | p-stl | flex | sol | 36x5 | 36x10 | Sth | mt | own | 4-4½x5½-29.0 | 4 | cent | own | cst | MeC | fin | sing | Bosch | hand | s&l | West | 175 |
| Douglas | | 1½ | 2,200 | 128 | own | p-stl | | sol* | 36x5 | 37x8 | own | wd | Weld | 4-3½x5½-22.5 | 4 | cent | Chgo | cst | Chgo | sq-t | sing | Eismn | hand | sl&i-2 | West | 100 |
| Douglas | | 3 | 3,500 | 144 | own | p-stl | | opt | 36x6 | 37x8 | own | wd | Buda | 4-4½x5½-29.0 | 4 | cent | Chgo | cst | Chgo | sq-t | sing | Eismn | hand | sl&i-2 | West | 100 |
| Duplex | A | 2½ | 2,775 | 145 | P&B | p-stl | rigid | pnu | 35x5 | 38x7 | Prud | wd | Hink | 4-4 x5½-25.6 | 4 | cent | Mod | cst | Mod | fin | sing | West | hand | s&l-2 | West | none |
| Duplex | E | 3½ | 4,250 | 130 | P&B | p-stl | rigid | sol | 36x8 | 36x8 | Prud | wd | Buda | 4-4½x5½-29.0 | 4 | cent | Long | prs | Long | p-t | sing | Eismn | hand | none | | |
| Duty | 21 | 2 | 1,490 | 134 | own | rol-c | s-flex | sol | 34x3½ | 34x5 | Stn | wd | Gray | 4-3½x5 -19.6 | 4 | ther | Eurk | cst | Eurk | cel | sing | Spltf | hand | none | | |
| Elmira | C | ½ | 600 | 105 | own | rol-c | s-flex | pnu | 28x3 | 28x3 | Mott | wr | LeR | 4-3½x4½-15.6 | 4 | ther | Coen | pst | Coen | zz-t | sing | Spltf | hand | lghtg | W-L | none |
| Erie | A | 2½ | | 150 | own | p-stl | s-flex | sol* | 36x4 | 36x4d | Way | wd | Buda | 4-4½x5½-29.0 | 4 | cent | own | cst | MeC | fin | sing | Bosch | hand | lghtg | | none |
| Facto | 1921 | 2½ | 2,895 | 156 | | p-stl | | sol* | 36x4* | 36x8* | Sth | mt | Buda | 4-4½x5½-29.0 | 4 | | Bush | | Bush | fin | | Spltf | | | | |
| Fageol (Cal.) | | 1½ | 3,400 | 136 | own | rol-c | s-flex | sol* | 34x3½ | 34x6 | Stn | mt | Wau | 4-3½x5½-22.5 | 4 | cent | own | cst | Mod | fin | sing | Spltf | hand | lghtg | Spl.f | |
| Fageol (Cal.) | | 2½ | 3,900 | 144 | own | rol-c | s-flex | sol* | 34x4 | 36x7 | Stn | mt | Wau | 4-4½x5½-29.0 | 2 | cent | own | cst | Mod | cel | sing | Spltf | hand | lghtg | Spl.f | |
| Fageol (Cal.) | | 3½ | 5,000 | 172 | own | p-stl | | sol* | 36x5 | 36x5d | Stn | mt | Wau | 4-4½x6½-32.6 | 2 | cent | own | cst | Mod | cel | sing | Spltf | hand | lghtg | Spl.f | |
| Fageol (Cal.) | | 5 | 5,700 | 174 | own | p-stl | | sol | 36x6 | 40x6d | Stn | mt | Wau | 4-4½x6½-32.4 | 2 | cent | own | cst | Mod | zz-t | sing | Spltf | hand | lghtg | Spltf | |
| Fageol (Ohio) | Md | 2½ | 3,900 | 150 | own | rol-c | flex | sol* | 36x4 | 36x4 | Stn | mt | Wau | 4-4½x5½-18.2 | 2 | cent | own | cst | Mod | cel | sing | Laur | hand | none | | cent |
| Fageol (Ohio) | Hd | 3½ | 4,900 | 172 | own | p-stl | s-flex | sol* | 36x5 | 40x5d | Stn | mt | Wau | 4-4½x6½-29.0 | 2 | cent | own | cst | Mod | cel | sing | Laur | hand | none | | cent |
| Federal | SD | 1 | 2,600 | 132 | Drt | p-stl | s-flex | pnu | 35x5 | 36x6 | Drt | mt | Cont | 4-3½x5 -22.5 | 4 | cent | own | pst | Long | fin | sing | Eismn | fixed | lghtg | Aut-L | none |
| Federal | TE | 1½ | 2,825 | 144 | Drt | p-stl | s-flex | sol | 36x3½ | 36x5 | Auto | wd | Cont | 4-4½x5½-27.2 | 4 | cent | own | pst | Long | fin | sing | Eismn | fixed | none | | |
| Federal | UE | 2 | 3,150 | 156 | Drt | p-stl | s-flex | sol | 36x4 | 36x7 | Auto | wd | Cont | 4-4½x5½-27.2 | 4 | cent | own | pst | Long | fin | sing | Eismn | fixed | none | | |
| Federal | WE | 3½ | 4,100 | 156 | Drt | p-stl | s-flex | sol | 36x5 | 36x5d | Sth | mt | Cont | 4-4½x5½-32.4 | 2 | cent | own | pst | Long | fin | sing | Eismn | fixed | none | | |
| Federal | XE | 5 | 4,750 | 156 | Russl | rol-c | s-flex | sol | 36x6 | 40x6d | Sth | mt | Cont | 4-4½x5½-32.4 | 2 | cent | own | pst | Long | fin | sing | Eismn | fixed | none | | |
| Ford | TT | 1 | 545 | 123 | | p-stl | flex | pnu | 30x3½ | 32x4½ | Hay* | wd | own | 4-3½x4 -22.5 | 4 | ther | own | pst | own | fin | dual | own | hand | sl&i-2 | own | 70 |
| F.W.D. | B | 3 | | 124 | own | p-stl | s-flex | sol | 36x6 | 36x6 | Sch | wd | Wsc | 4-4½x5½-36.1 | 2 | cent | MeC | cst | MeC | pln | sing | Eismn | hand | s&l-2 | N-E | |

**ABBREVIATIONS—Types of Construction**

*—other options
**amid**—amidships
**auto**—automatic
**bevl**—bevel
**cel**—cellular
**cent**—centrifugal
**chn**—chain
**cst**—cast
**ctr**—center
**cylinders cast, 2 in pairs**
**cylinders cast, 4 in block**
**cylinders cast, 3 in threes**
**cylinders cast, 1 singly**
**cyl-ends**—cylinder-ends
**d**—dual
**d-d**—dry-disk
**d-p**—dry-plate
**dplx**—from both motor & driveshaft
**d-rd**—double reduction
**d-s**—drive-shaft
**elec**—electric
**ext-d-s**—external drive-shaft
**ext-f-w**—external front wheel
**ext-g**—external gear
**ext-jst**—external jack-shaft
**ext-r-w**—external rear wheel
**fab**—fabric
**fin**—finned tube
**flex**—flexible
**f-m**—fabric & metal
**fric**—friction
**g-p**—gear pump
**grv**—gravity
**gset**—from gearset
**hyd**—hydraulic
**ind-c**—individual clutch
**int-g**—internal gear
**int-gcd**—internal gear drive on 4 wheels
**int-r-w**—internal rear wheel
**jst**—unit with jackshaft
**l**—left
**l-b**—loose ball
**lghtg**—lighting only
**mtr**—unit with motor
**mt**—metal (wheels)
**mtl**—metal (universal joint)
**opt**—optional
**pist**—piston pump
**plan**—planetary
**pln**—plain tube
**pnu**—pneumatic
**pres**—pressure
**prog**—progressive
**prs**—pressed steel
**p&s**—pneumatics in front solids in rear
**p-stl**—pressed steel
**r**—right
**r&c**—right & center
**r-rd**—radius rods
**rol-c**—rolled channel
**rol-i**—rolled I-beam
**selec**—selective
**s-flex**—semi-flexible
**s-fr**—sub-frame
**sht**—sheet
**s&l**—starting & lighting
**sl&i-2**—starting, lighting & ignition, 2 unit
**sol**—solid
**sprgs**—springs
**sq-t**—square tube
**start**—starting only
**suct**—suction
**t-arm**—torque arm
**ther**—thermo-syphon
**t-p**—two-point
**t-t**—torsion tube
**vac**—vacuum
**wat-tube**—water tube
**wd**—wood
**w-d**—multiple disk in oil
**w-p**—plate in oil
**wr**—wire
**zz-t**—zig-zag tube

**ABBREVIATIONS—Makers of Parts.**

*Other Options
**A-Knt**—Atwater-Kent
**Al-Ch**—Allis-Chalmers
**Amer**—American Magneto Co.
**Arch**—Archibald
**Aut-L**—Auto-Lite
**Auto**—Auto Wheel Co.
**B-Beck**—Borg & Beck
**BCA**—Bearings Co. of Am.
**Berlg**—Berling
**Bim**—Bimel
**Bl&Fl**—Blood & Flexite
**B-Lipe**—Brown-Lipe
**Blood**—Blood Bros.
**Bl&P**—Blood & Peters
**Bl&Sp**—Blood & Spicer
**B-M**—Bucyrus Mach. Tool
**Brem**—Bremer
**Cart**—Carter carburetor
**Cas**—G. M. Castle
**CAS**—C. A. S. products
**C-D**—Curran-Detroit Radiator Co.
**Chgo**—Chicago Mfg. Co.
**Chic**—Chicago Standard
**Chmp**—Champion Auto Spring Co.
**Clrk**—Clark Equip. Co.
**Coen**—Corcoran Radiator Co.
**Col**—Columbia Axle Co.
**Cont**—Continental motor
**Conn**—Connecticut
**Crn**—Crane & MacMahon
**Crn-S**—Crane & MacMahon and Standard
**Day**—Dayton wheel
**Detlaf**—Detlaff
**Det**—Detroit Wheel & Rim
**Detrt**—Detroit G. & M.
**Ditl**—Disteel Wheel Co.
**Ditw**—Ditwiler Mfg. Co.
**Dnet**—Dyneto

# Gasoline Motor Trucks for 1921—Cont.

| ENGINE | | | | | | | | | TRANSMISSION | | | | | | | | | Springs Make | BRAKES | | CONTROL | | | UNIVERSALS | | Name and Model |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GOVERNOR | | | SPEED | | FUEL SYS. | | CLUTCH | | CEARSET | | | | FINAL DRIVE | | Total Gear Reduction | Propulsion Taken By | Torque Taken By | | Foot | Hand | STEER'G GEAR | | Levers | | | |
| Type | Make | Drive | Motor in r.p.m. | Truck in m.p.h. | Carbureter Make | Fuel Feed | Type | Make | Type | Make | Placed | Speeds | Type | Rear Axle Make | | | | | | | Placed | Make | | Type | Make | |
| cent. | own... | motor. | 1300 | 18 | Stmbg.. | vac. | d-d. | B-Lipe. | selec. | B-Lipe. | mtr. | 3 | worm. | S-P. | ..... | r-rd. | sprgs. | S-P. | int-r-w | int-r-w | l. | Ross. | ctr. | mtl | Spicer. | Clydesdale 32C |
| cent. | own... | motor. | 1410 | 17 | Stmbg.. | vac. | d-d. | B-Lipe. | selec. | B-Lipe. | mtr. | 3 | worm. | Timkn | ..... | r-rd. | sprgs. | S-P. | int-r-w | int-r-w | l. | Ross. | ctr. | mtl | Spicer. | Clydesdale 42C |
| cent. | own... | motor. | 1410 | 16 | Stmbg.. | vac. | d-d. | B-Lipe. | selec. | B-Lipe. | amid. | 4 | worm. | Timkn | ..... | r-rd. | sprgs. | S-P. | int-r-w | int-r-w | l. | Ross. | ctr. | mtl | Spicer. | Clydesdale 65C |
| cent. | own... | motor. | 1500 | 15 | Stmbg.. | vac. | d-d. | B-Lipe. | selec. | B-Lipe. | mtr. | 4 | worm. | Timkn | ..... | r-rd. | sprgs. | S-P. | int-r-w | int-r-w | l. | Ross. | ctr. | mtl | Spicer. | Clydesdale 65EC |
| cent. | own... | motor. | 1310 | 15 | Stmbg.. | vac. | d-d. | B-Lipe. | selec. | B-Lipe. | amid. | 4 | worm. | Timkn | ..... | r-rd. | sprgs. | S-P. | int-r-w | int-r-w | l. | Ross. | ctr. | mtl | Spicer. | Clydesdale 90C |
| cent. | own... | motor. | 1380 | 14 | Stmbg.. | vac. | d-d. | B-Lipe. | selec. | B-Lipe. | amid. | 4 | worm. | Timkn | ..... | r-rd. | sprgs. | S-P. | int-r-w | int-r-w | l. | Ross. | ctr. | mtl | Spicer. | Clydesdale 120C |
| none. | ..... | ..... | 2200 | 40 | Zenith.. | vac. | cone. | Detrt. | selec. | Detrt. | mtr. | 3 | bevel. | Sal. | 5.14 | sprgs. | sprgs. | Dtr. | ext-r-w | int-r-w | l. | Jacox. | ctr. | mtl | Spicer. | Commerce T |
| none. | ..... | ..... | 2200 | 30 | Zenith.. | vac. | cone. | Detrt. | selec. | Detrt. | mtr. | 3 | int-g. | Torbn. | 7.00 | sprgs. | sprgs. | Dtr. | ext-r-w | int-r-w | l. | Sag. | ctr. | mtl | Spicer. | Commerce E |
| none. | ..... | ..... | 2200 | 30 | Zenith.. | vac. | cone. | Detrt. | selec. | Detrt. | mtr. | 3 | int-g. | Torbn. | 7.00 | sprgs. | sprgs. | Dtr. | ext-r-w | int-r-w | l. | Sag. | ctr. | mtl | Spicer. | Commerce EP |
| none. | ..... | ..... | 2500 | 35 | Stmbg.. | grv. | d-p. | B-Beck. | ind-c. | Cotta. | mtr. | 4 | int-g. | Hero. | 8.30 | sprgs. | sprgs. | S-P. | int-r-w | int-r-w | l. | Lavn. | ctr. | mtl | Blood. | Cook 41 |
| cent. | Simp. | motor. | 1200 | 18 | Stmbg.. | vac. | d-d. | Fuller. | selec. | Fuller. | mtr. | 3 | worm. | Shel. | 6.50 | sprgs. | sprgs. | Shel. | int-r-w | int-r-w | l. | Ross. | ctr. | mtl | Hart. | Corbitt E |
| cent. | Simp. | motor. | 1200 | 18 | Stmbg.. | vac. | d-d. | Fuller. | selec. | Fuller. | mtr. | 3 | worm. | Shel. | 8.67 | sprgs. | sprgs. | Shel. | int-r-w | int-r-w | l. | Ross. | ctr. | mtl | Hart. | Corbitt D |
| cent. | Simp. | motor. | 1200 | 16 | Stmbg.. | vac. | d-d. | B-Lipe. | selec. | B-Lipe. | mtr. | 3 | worm. | Shel. | 8.75 | sprgs. | sprgs. | Shel. | int-r-w | int-r-w | l. | Ross. | ctr. | mtl | Hart. | Corbitt C |
| cent. | Simp. | motor. | 1200 | 16 | Stmbg.. | vac. | d-d. | B-Lipe. | selec. | B-Lipe. | mtr. | 4 | worm. | Shel. | 8.75 | sprgs. | sprgs. | Shel. | int-r-w | int-r-w | l. | Ross. | ctr. | mtl | Hart. | Corbitt B |
| cent. | Pierce. | motor. | 1050 | 14 | Stmbg.. | vac. | d-d. | B-Lipe. | selec. | B-Lipe. | mtr. | 4 | worm. | Shel. | 11.75 | sprgs. | sprgs. | Shel. | int-r-w | int-r-w | l. | Ross. | ctr. | mtl | Hart. | Corbitt A |
| cent. | Cont. | motor. | 1000 | 12 | Stmbg.. | vac. | d-d. | Detlaf. | selec. | B-Lipe. | amid. | 4 | worm. | Shel. | 10.25 | sprgs. | sprgs. | Shel. | int-r-w | int-r-w | l. | Ross. | ctr. | mtl | Hart. | Corbitt AA |
| none. | ..... | ..... | 1225 | 16 | Zenith. | grv. | d-d. | Covert. | selec. | Covert. | mtr. | 3 | worm. | Shel. | 7.80 | sprgs. | sprgs. | Iron. | int-r-w | int-r-w | l. | Gem. | ctr. | mtl | Hart. | D-E A |
| none. | ..... | ..... | 1225 | 15 | Zenith. | grv. | d-d. | Covert. | selec. | Covert. | mtr. | 3 | worm. | Shel. | 8.70 | sprgs. | sprgs. | Iron. | int-r-w | int-r-w | l. | Gem. | ctr. | mtl | Hart. | D-E B |
| suct. | Mnrch. | motor. | 1260 | 14 | Zenith. | grv. | d-d. | Covert. | selec. | Covert. | mtr. | 4 | worm. | Shel. | 10.60 | sprgs. | sprgs. | Iron. | int-r-w | int-r-w | l. | Gem. | ctr. | mtl | Hart. | D-E D |
| suct. | Mnrch. | motor. | 1392 | 14 | Zenith. | grv. | d-d. | Covert. | selec. | Covert. | mtr. | 4 | worm. | Shel. | 10.30 | sprgs. | sprgs. | Iron. | int-r-w | int-r-w | l. | Gem. | ctr. | mtl | Hart. | D-E C |
| suct. | Mnrch. | motor. | 1318 | 12 | Zenith. | grv. | d-d. | B-Lipe. | selec. | B-Lipe. | mtr. | 4 | worm. | Shel. | 11.75 | sprgs. | sprgs. | Iron. | int-r-w | int-r-w | l. | Gem. | ctr. | mtl | Hart. | D-E F |
| suct. | Mnrch. | motor. | 863 | 10 | Zenith. | grv. | d-d. | B-Lipe. | selec. | B-Lipe. | amid. | 4 | worm. | Shel. | 10.25 | sprgs. | sprgs. | Iron. | int-r-w | int-r-w | l. | Gem. | ctr. | mtl | Hart. | D-E E |
| none. | ..... | ..... | 1300 | 16 | Stmbg.. | vac. | d-d. | Fuller. | selec. | Fuller. | mtr. | 3 | worm. | Wsc. | 8.25 | sprgs. | sprgs. | Marm. | int-r-w | int-r-w | l. | Ditw. | ctr. | mtl | Hart. | Dearborn F |
| none. | ..... | ..... | ..... | ..... | ..... | ..... | d-d. | Fuller. | selec. | Fuller. | mtr. | 3 | worm. | Wsc. | 9.66 | sprgs. | sprgs. | Marm. | int-r-w | int-r-w | l. | Ditw. | ctr. | mtl | Hart. | Dearborn 48 |
| none. | ..... | ..... | 1600 | 25 | Stmbg.. | vac. | d-p. | B-Beck. | selec. | G-Lees. | mtr. | 3 | int-g. | Torbn. | 7.00 | sprgs. | sprgs. | Dtr. | ext-r-w | int-r-w | l. | B-M. | ctr. | mtl | Arvac. | Defiance D |
| none. | ..... | ..... | 1750 | 25 | Stmbg.. | vac. | d-p. | B-Beck. | selec. | G-Lees. | mtr. | 3 | int-g. | Torbn. | 8.00 | sprgs. | sprgs. | Dtr. | ext-r-w | int-r-w | l. | B-M. | ctr. | mtl | Arvac. | Defiance D |
| none. | ..... | ..... | 1500 | 18 | Master. | grv. | d-d. | Fuller. | selec. | Fuller. | mtr. | 3 | worm. | Timkn | 8.50 | r-rd. | t-arm. | Math. | int-r-w | int-r-w | l. | Ross. | ctr. | mtl | Hart. | DeKalb E2 |
| none. | ..... | ..... | 1500 | 14 | Master. | grv. | d-d. | Fuller. | selec. | Fuller. | mtr. | 3 | worm. | Timkn | 9.33 | r-rd. | t-arm. | Math. | int-r-w | int-r-w | l. | Ross. | ctr. | mtl | Hart. | DeKalb E2½ |
| none. | ..... | ..... | 1800 | 30 | Zenith. | vac. | d-p. | B-Beck. | selec. | Muncie | mtr. | 3 | worm. | Dunk. | 6.20 | sprgs. | sprgs. | S-P. | int-r-w | int-r-w | l. | Wol. | ctr. | mtl | Acme. | Dependable A |
| suct. | Mnrch. | ..... | 1250 | 18 | Zenith. | vac. | d-d. | Fuller. | selec. | Fuller. | mtr. | 4 | worm. | Wis. | 8.25 | sprgs. | sprgs. | Stand. | int-r-w | int-r-w | l. | Ross. | ctr. | mtl | Acme. | Dependable C |
| suct. | Mnrch. | ..... | 1600 | 17 | Zenith. | vac. | d-d. | Fuller. | selec. | Fuller. | mtr. | 3 | worm. | Wis. | 8.66 | sprgs. | sprgs. | S-P. | int-r-w | int-r-w | l. | Ross. | ctr. | mtl | Acme. | Dependable D |
| suct. | Mnrch. | ..... | 1250 | 14 | Zenith. | vac. | d-d. | Fuller. | selec. | Fuller. | amid. | 4 | worm. | Wis. | 8.66 | sprgs. | sprgs. | Stand. | int-r-w | int-r-w | l. | Ross. | ctr. | mtl | Acme. | Dependable E |
| suct. | Mnrch. | ..... | 1600 | 15 | Zenith. | vac. | d-d. | Fuller. | selec. | Fuller. | amid. | 4 | worm. | Wis. | 10.00 | sprgs. | sprgs. | S-P. | int-r-w | int-r-w | l. | Ross. | ctr. | mtl | Acme. | Dependable G |
| cent. | ..... | motor. | 1700 | ..... | Stmbg.. | vac. | d-d. | Covert | selec. | Covert. | mtr. | 3 | worm. | Wis. | 8.25 | sprgs. | sprgs. | Math. | ext-r-w | int-r-w | l. | Gem. | ctr. | ..... | Spicer. | Diamond-T T |
| cent. | ..... | motor. | 1800 | ..... | Stmbg.. | vac. | d-d. | Covert | selec. | Covert. | mtr. | 4 | worm. | Timkn | 7.75 | sprgs. | sprgs. | Math. | ext-r-w | int-r-w | l. | ..... | ctr. | ..... | Spicer. | Diamond-T U |
| cent. | ..... | motor. | ..... | ..... | Stmbg.. | vac. | d-d. | Covert | selec. | Covert. | amid. | 4 | worm. | Timkn | 8.75 | sprgs. | sprgs. | Math. | ext-r-w | int-r-w | l. | Gem. | ctr. | f-m | Sn&Sp. | Diamond-T K |
| cent. | ..... | motor. | ..... | ..... | Stmbg.. | vac. | d-d. | Covert | selec. | Covert. | amid. | 4 | worm. | Timkn | 11.66 | sprgs. | sprgs. | Math. | ext-r-w | int-r-w | l. | Gem. | ctr. | f-m | Sn&Sp. | Diamond-T EL |
| cent. | Pierce. | motor. | 1100 | ..... | Stmbg.. | vac. | d-d. | B-Lipe. | selec. | B-Lipe. | amid. | 4 | worm. | Timkn | 11.66 | sprgs. | sprgs. | Math. | ext-r-w | int-r-w | l. | Gem. | ctr. | f-m | Sn&Sp. | Diamond-T S |
| none. | ..... | ..... | ..... | ..... | Stewrt. | vac. | d-d. | own. | selec. | own. | mtr. | 3 | bevel. | own. | 4.10 | t-arm. | t-arm. | own. | int-r-w | int-r-w | l. | own. | ctr. | mtl | own. | Dodge C-P |
| cent. | own. | motor. | 1090 | 13 | Stmbg.. | grv. | d-d. | Warner | selec. | Warner | amid. | 4 | worm. | Timkn | 7.75 | sprgs. | sprgs. | Rowl. | int-r-w | int-r-w | l. | Ross. | r. | mtl | Spicer. | Dorris K-4 |
| cent. | own. | motor. | 1090 | 11 | Stmbg.. | grv. | d-d. | Warner | selec. | Warner | amid. | 4 | worm. | Timkn | 10.30 | sprgs. | sprgs. | Rowl. | int-r-w | int-r-w | l. | Ross. | r. | mtl | Spicer. | Dorris K-7 |
| suct. | Pierce. | motor. | 2200 | 12 | Schblr. | vac. | d-d. | B-Beck. | selec. | ..... | mtr. | 3 | worm. | Wis. | 8.00 | sprgs. | sprgs. | r. | int-r-w | ext-r-w | l. | ..... | ctr. | mtl | Arvac. | Douglas |
| suct. | Pierce. | motor. | 2400 | ..... | Schblr. | vac. | d-d. | ..... | selec. | Fuller. | mtr. | 4 | worm. | Wis. | 9.00 | sprgs. | sprgs. | ..... | ext-r-w | int-r-w | l. | Ross. | ctr. | mtl | Arvac. | Douglas |
| none. | ..... | ..... | 1300 | 25 | Stmbg.. | grv. | d-d. | Covert | selec. | Covert. | mtr. | 3 | worm. | Shel. | ..... | sprgs. | sprgs. | Penn. | int-r-w | int-r-w | l. | Ross. | ctr. | mtl | Peters. | Duplex A |
| cent. | Dplx. | motor. | 1200 | 12 | Schblr. | vac. | d-d. | B-Lipe. | selec. | B-Lipe. | mtr. | 8 | int-g. | own. | 8.00 | r-rd. | r-rd. | Tuth. | ext-d-s. | ext-r-w | l. | ..... | r. | mtl | Peters. | Duplex E |
| none. | ..... | ..... | ..... | ..... | Zenith. | grv. | d-d. | Covert | selec. | Covert. | mtr. | 3 | int-g. | Russl. | 8.20 | sprgs. | sprgs. | Chmp. | ext-r-w | int-r-w | l. | Ditw. | ctr. | mtl | Acme. | Duty 21 |
| none. | ..... | ..... | 3000 | 30 | Holley. | vac. | d-p. | B-Beck. | selec. | Covert. | mtr. | 3 | bevel. | own. | 4.40 | r-rd. | r-rd. | own. | ext-r-w | ext-r-w | l. | own. | ctr. | fab | Therm. | Elmira C |
| cent. | Pierce. | motor. | ..... | 12 | Stmbg.. | grv. | d-d. | Fuller. | selec. | Fuller. | amid. | 4 | worm. | Shel. | ..... | r-rd. | sprgs. | S-P. | int-r-w | int-r-w | l. | Ross. | ctr. | mtl | Spicer. | Erie A |
| ..... | ..... | ..... | 1300 | 18 | Zenith. | ..... | d-d. | ..... | selec. | ..... | amid. | 4 | worm. | Timkn | 7.75 | ..... | ..... | ..... | ..... | ..... | l. | Ross. | ctr. | mtl | Spicer. | Facto 1921 |
| cent. | Wau. | motor. | 1500 | 26 | Zenith. | vac. | d-p. | B-Beck. | selec. | own. | mtr. | 5 | worm. | S-P. | 7.75 | sprgs. | sprgs. | Math. | int-r-w | int-r-w | l. | Ross. | ctr. | mtl | Unvsl. | Fageol (Cal.) 1½ |
| cent. | Wau. | motor. | 1100 | 21 | Zenith. | grv. | d-d. | B-Lipe. | selec. | own. | amid. | 5 | worm. | Timkn | 7.75 | sprgs. | sprgs. | Math. | int-r-w | int-r-w | l. | Ross. | ctr. | f-m | Sp&Th. | Fageol (Cal.) 2½ |
| cent. | Wau. | motor. | 1000 | 14 | Zenith. | vac. | d-d. | B-Lipe. | selec. | own. | amid. | 5 | worm. | Timkn | 10.33 | r-rd. | sprgs. | Math. | int-r-w | int-r-w | l. | Ross. | ctr. | f-m | Sp&Th. | Fageol (Cal.) 3½ |
| cent. | Wau. | motor. | 1000 | 14 | Zenith. | vac. | d-d. | B-Lipe. | selec. | own. | amid. | 5 | worm. | Timkn | 8.42 | r-rd. | sprgs. | Math. | int-r-w | int-r-w | l. | Ross. | ctr. | f-m | Sp&Th. | Fageol (Cal.) 5-6 |
| cent. | Wau. | motor. | 1200 | 22 | Zenith. | vac. | d-d. | Detlaf. | selec. | own. | amid. | 5 | worm. | Timkn | 7.75 | sprgs. | sprgs. | Math. | int-r-w | int-r-w | l. | Ross. | ctr. | f-m | Sp&Th. | Fageol (Ohio) Md |
| cent. | Wau. | motor. | 1100 | 20 | Zenith. | vac. | d-d. | Detlaf. | selec. | own. | amid. | 5 | worm. | Timkn | 8.75 | r-rd. | sprgs. | Math. | int-r-w | int-r-w | l. | Ross. | ctr. | f-m | Sp&Th. | Fageol (Ohio) Hd |
| hyd. | Pharo. | motor. | 1447 | 25 | Zenith. | vac. | d-p. | B-Beck. | selec. | own. | amid. | 3 | worm. | Timkn | 6.20 | r-rd. | sprgs. | Math. | int-r-w | int-r-w | l. | Gem. | ctr. | mtl | Peters. | Federal SD |
| hyd. | Pharo. | motor. | 1200 | 15 | Zenith. | grv. | d-p. | B-Beck. | selec. | Detrt. | amid. | 4 | worm. | Timkn | 8.50 | r-rd. | sprgs. | Math. | int-r-w | int-r-w | l. | Gem. | ctr. | mtl | Spicer. | Federal TE |
| hyd. | Pharo. | motor. | 1125 | 13 | Zenith. | grv. | d-p. | B-Beck. | selec. | Detrt. | amid. | 4 | worm. | Timkn | 9.25 | r-rd. | sprgs. | Math. | int-r-w | int-r-w | l. | Gem. | ctr. | mtl | Spicer. | Federal UE |
| hyd. | Pharo. | motor. | 1150 | 12 | Zenith. | grv. | d-p. | B-Beck. | selec. | Warner | amid. | 4 | worm. | Timkn | 10.33 | r-rd. | sprgs. | Math. | int-r-w | int-r-w | l. | Gem. | ctr. | mtl | Spicer. | Federal WE |
| hyd. | Pharo. | motor. | 1150 | 10 | Zenith. | grv. | d-p. | B-Beck. | selec. | Warner | amid. | 4 | worm. | Timkn | 13.66 | r-rd. | sprgs. | Math. | int-r-w | int-r-w | l. | Gem. | ctr. | mtl | Spicer. | Federal XE |
| none. | ..... | ..... | 1800 | 18 | own. | grv. | w-d. | own. | plan. | own. | mtr. | 2 | worm. | own. | 7.25 | t-rd. | t-t. | own. | ext-d-s. | int-r-w | l. | own. | l. | mtl | own. | Ford TT |
| cent. | Pierce. | motor. | 1350 | 16 | Stmbg.. | grv. | w-d. | M&E. | ind-c. | Cotta. | amid. | 3 | bevl-4. | own. | 8.90 | sprgs. | sprgs. | Tuth. | ext-d-s. | ext-r-w | r. | Ross. | r. | mtl | Blood. | F.W.D. B |

**ABBREVIATIONS—Makers of Parts—(Con)—**

**Dplx**—Duplex governor
**Drt**—Detroit Pressed Steel Co.
**Dtr**—Detroit Products
**Dtrt**—Detroit lubricator
**Dun**—Dunbar Mfg. Co.
**Dund**—Dundore Mfg. Co.
**Dunk**—Dunkirk Axle Corp.
**Dur**—Durston Gear Corp.
**Elyr**—Elyria Steel Products Co.
**E&M**—English & Mersick
**E&O**—Eberly & Orris
**Elsmn**—Eisemann
**Ens**—Ensign carburetor
**Eric**—Ericsson Mfg. Co.
**Eurk**—Eureka
**Fed**—Fedders
**GB&S**—Golden, Belknap & Schwartz
**G&D**—Gray & Davis
**G&O**—G & O Mfg. Co.
**GCs**—Garden City springs
**Gem**—Gemmer
**G-Lees**—Grant-Lees
**Godn**—Gordan Radiator Co.
**Har**—Harrison
**Hart**—Hartford
**Harv**—Harvey
**Hay**—Hayes Wheel Co.
**H&D**—Hoopes Bros. & Darlington
**H&K**—Hale & Kilburn
**Her**—Hercules
**Hghy**—Highway Engine Co.
**Hink**—Hinkley
**H-Shaw**—Hele-Shaw
**H-S**—Herschell-Spillman
**Hyd**—Hydraulic
**Idl**—Ideal
**Int**—Interstate
**Iron**—Iron City
**Jacox**—Jackson-Church-Wilcox
**Jck**—Jackson Auto Rad.
**Jmst**—Jamestown Car Parts
**Jns**—Phineas Jones & Co.
**John**—Johnson Co.
**K&B**—Kinsler & Bennet
**Kel**—Kelsey Wheel Co.
**Kug**—Kueng Radiator Co.
**K.W.**—K.W. Ignition Co.
**Laur**—Lauraine Magneto
**Lavn**—Lavine
**LeR**—Le Roi engine
**Lght**—Light Mfg. Co.
**Liggt**—Liggett Spring & Axle Co.
**L-N**—Leece-Neville Co.
**Lng**—Long
**Lvgn**—Livingston
**Lyc**—Lycoming
**Marm**—Maremont Mfg. Co.
**McCn**—McCanna
**M&E**—Merchant & Evans
**McC**—McCord
**Mech**—Mechanics Machine
**Merl**—Merrill Spring Co.
**Mnrch**—Monarch
**Mod**—Modine Mfg. Co.
**Morg**—Morgan Mfg. Co.
**Math**—Mather
**Munc**—Muncie
**MWC**—Motor Wheel Corp.
**Natl**—National Can Co.
**Natn**—National Axle Co.
**N-E**—North East
**Own&Sp**—Own & Spicer
**P&B**—Parish & Bingham
**Pfx**—Perfex radiator
**Pgh**—Pittsburgh Pressed Steel
**Phro**—Pharo Mfg. Co.
**Pitt**—Pittsburgh Model Engine Co.
**Prsh**—Parish Mfg. Co.
**Prud**—Prudden
**Rayfld**—Rayfield
**Rowl**—Wm. H. Rowland
**Roy**—Royer Wheel Co.
**R-T**—Rome-Turney
**Russl**—Russel Axle Co.
**Sag**—Saginaw
**Sal**—Salisbury
**Savg**—Savage Arms
**Sch**—Schwarz Wheel Co.
**Schblr**—Schebler
**Shar**—Sharon Pressed Steel Co.
**Shel**—Sheldon
**Sim**—Simms Magneto Co.
**Simp**—Simplex
**S-K**—Slick Knox Steel Co.
**Smh**—A. O. Smith
**Sn & Ac**—Snead & Acme
**Sn&Sp**—Snead & Spicer
**S-P**—Standard Parts Co.
**Sp&Fl**—Spicer & Flexite
**Splf**—Splitdorf
**Sp-P**—Spring Perch Co.
**Sp&Pet**—Spicer & Peters
**Stan**—Standard radiator
**Stand**—Standard Steel Spring Cr.
**Sterl**—Sterling bearings
**Stmbg**—Stromberg
**Stn**—Standard Wheel Co.
**Sth**—Smith steel wheel
**S-W**—Sparks-Withington
**Th&Ba**—Thermoid & Baker
**Th&Bl**—Thermoid & Blood
**Therm**—Thermoid
**Th—Sp**—Thermoid & Spicer
**Till**—Tillotson
**Timkn**—Timken
**Torbn**—Torbensen
**Trav**—Traverse City Iron Works
**T-S**—Turner-Seymour
**Tuth**—Tuthill
**Unv**—Universal
**Unvsl**—Universal Mach.
**U.P.**—U. P. Products Co.
**U.S.**—U. S. Spring Co.
**Wab**—Wabash Radiator Co.
**Warn**—Warner
**Wau**—Waukesha
**Way**—Wayne Wheel Co.
**Wel**—Weidley
**West**—Westinghouse
**We-W**—Western Wheel Co.
**Wis**—Wisconsin Parts
**Wol**—Wohlrab
**W-S**—West Steel Castings Co.
**Wsc**—Wisconsin engine
**Yng**—Youngstown Pressed Steel Co.

PRINT IN BINDING

# Complete Mechanical Specifications of

| Name and Model | Tons Capacity | Chassis Price | Wheelbase, Inches | FRAME Make | FRAME Material | FRAME Type | TIRES Kind | TIRES Size in Ins. Front | TIRES Size in Ins. Rear | WHEELS Make | WHEELS Type | ENGINE Make | ENGINE No. Cyl. Bore and Stroke N.A.C.C. Hp. | ENGINE Cylinders Cast | COOLING Water Circ. | COOLING RADIATOR CASE Make | COOLING RADIATOR CASE Type | COOLING RADIATOR CORE Make | COOLING RADIATOR CORE Type | IGNITION Type | IGNITION Make | IGNITION Spark Advance | ELEC. SYSTEM Type | ELEC. SYSTEM Make | ELEC. SYSTEM Extra Cost $ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Fulton A | ½ | 1,775 | 130 | Shar | p-stl | flex | pnu | 35x5 | 35x5 | H&D | wd | H-S | 4-3½x5 -19.6 | 4 | ther | Lvgn | cst | Lvgn | cel | sing | Berlg | hand | s&l-2 | West | none |
| Fulton C | 2 | 2,350 | 137 | Shar | p-stl | flex | sol | 34x4 | 34x6 | H&D | wd | H-S | 4-3½x5 -19.6 | 4 | ther | T-S | cst | G&O | cel | sing | Berlg | hand | | | |
| Garford 25B | 1½ | | 135 | own | p-stl | s-flex | sol | 36x3½ | 36x4 | | wd | Buda | 4-4½x5½-22.5 | 4 | cent | own | cst | | fin | sing | Spltf | hand | s&l-2 | West | |
| Garford 70H | 2 | | 144 | own | p-stl | s-flex | sol | 36x4 | 36x7 | | wd | Buda | 4-4½x5½-29.0 | 4 | cent | own | cst | | fin | sing | Spltf | hand | s&l-2 | West | |
| Garford 68 | 5 | | 128 | own | p-stl | s-flex | sol | 36x6 | 40x6d | Sth | mt | Wsc | 4-4½x5½-36.1 | 2 | cent | own | cst | | fin | sing | | hand | none | | |
| Garford 77D | 3½ | | 162 | own | p-stl | s-flex | sol | 36x5 | 36x5d | Sth | mt | Buda | 4-4½x6 -32.4 | 4 | cent | own | cst | | fin | sing | Spltf | hand | s&l-2 | West | |
| Gary I | 1½ | 2,550 | 144 | P&B | p-stl | flex | pnu* | 35x5 | 38x7 | MWC | wd | Buda | 4-4½x5½-27.2 | 4 | cent | own | cst | Chgo | fin | sing | Eism n | hand | none | | |
| Gary J | 2½ | 3,150 | 148 | P&B | p-stl | flex | pnu* | 36x6 | 40x8 | MWC | wd | Buda | 4-4½x5½-29.0 | 4 | cent | own | cst | Chgo | fin | sing | Eismn | hand | none | | |
| Gary KT | 3½ | 4,050 | 162 | P&B | p-stl | flex | sol | 36x5 | 40x5d | MWC | wd | Buda | 4-4½x6 -32.4 | 4 | cent | own | cst | Chgo | fin | sing | Eismn | hand | none | | |
| Gary M | 5 | 5,150 | 182 | P&B | p-stl | flex | sol | 36x6 | 40x6d | Day | mt | Buda | 4-5 x6½-40.0 | 4 | cent | own | cst | Chgo | fin | sing | Fismn | hand | none | | |
| G.M.C 16 | ½ | 1,495 | 132 | Sth | p-stl | s-flex | pnu | 35x5 | 35x5 | | wd | Cont | 4-3½x5 -22.5 | 4 | cent | MeC | prs | MeC | fin | sing | Eismn | hand | sl&i | Delco | |
| G.M.C 31 | 1½ | 2,395 | 130 | Sth | p-stl | s-flex | sol | 36x3½ | 36x5 | opt | wd | Cont | 4-3½x5 -22.5 | 4 | cent | MeC | cst | MeC | fin | sing | Eismn | hand | lghtg | Eismn | |
| G.M.C 41 | 2 | 2,725 | 158 | Sth | p-stl | s-flex | sol | 36x4 | 36x7 | own | mt | Cont | 4-4½x5½-27.2 | 4 | cent | MeC | cst | MeC | fin | sing | Eismn | hand | lghtg | Eismn | |
| G.M.C 71 | 2½ | 3,750 | 187 | own | rol-c | s-flex | sol | 36x5 | 40x5d | own | mt | Cont | 4-4½x5½-32.4 | 2 | cent | MeC | cst | MeC | fin | sing | Eismn | hand | lghtg | Eismn | |
| G.M.C 101 | 5 | 4 350 | 187 | own | rol-c | s-flex | sol | 36x6 | 40x6d | | wd | Cont | 4-4½x5½-32.4 | 2 | cent | MeC | cst | MeC | fin | sing | Eismn | hand | lghtg | Eismn | |
| Graham Bros. A | 1½ | 2,495 | 133 | Drt | p-stl | flex | pnu | 35x5 | 36x6 | Ditl | pst | Cont | 4-3½x5 -22.5 | 4 | ther | Yng | prs | Yng | fin | sing | Eismn | hand | sl&i | Eismn | 75 |
| Gramm-Bernstein 10 | 1 | 1,495 | 128 | own | p-stl | s-flex | pnu | 33x5 | 33x5 | | wd | | 4-3½x5 -19.6 | 4 | ther | own | | | fin | sing | | hand | sl&i | | |
| Gramm-Bernstein 15 | 1½ | 2,050 | 138 | own | p-stl | flex | opt | 36x3½ | 36x5 | Bim | wd | Cont | 4-3½x5 -22.5 | 4 | ther | own | cst | Long | fin | sing | N-E | hand | sl&i-2 | N-E | 80 |
| Gramm-Bernstein 65 | 1½ | 2,725 | 138 | own | p-stl | flex | opt | 36x3½ | 36x5 | Bim | wd | Cont | 4-3½x5 -22.5 | 4 | ther | own | cst | Long | fin | sing | N-E | hand | sl&i-2 | N-E | 80 |
| Gramm-Bernstein 20 | 2 | 3,175 | 144 | own | p-stl | flex | opt | 36x4 | 36x7 | Bim | wd | Cont | 4-4½x5½-27.3 | 4 | cent | own | cst | Long | fin | sing | N-E | hand | sl&i-2 | N-E | 80 |
| Gramm-Bernstein 25 | 2½ | 3,575 | 150 | own | p-stl | flex | opt | 36x4 | 36x4d | Sth | mt | Hink | 4-4½x5½-29.0 | 4 | cent | own | cst | Long | fin | dual | Fismn | hand | sl&i-2 | N-E | 100 |
| Gramm-Bernstein 35 | 3½ | 4,375 | 156 | own | p-stl | flex | opt | 36x5 | 40x5d | Sth | mt | Hink | 4-4½x5½-32.4 | 4 | cent | own | cst | Long | fin | dual | Eismn | hand | sl&i-2 | N-E | 100 |
| Gramm-Bernstein 50 | 5 | 5,275 | 168 | own | p-stl | flex | opt | 36x6 | 40x6d | Sth | mt | Cont | 4-4½x6 -36.1 | 2 | cent | own | cst | Long | fin | dual | Eismn | hand | sl&i-2 | N-E | 100 |
| Grant 17 | 1½ | 2,675 | 140 | Savg | p-stl | rigid | pnu | 35x5 | 38x7 | Roy | wd | Cont | 4-3½x5 -22.5 | 4 | ther | Mod | cst | Mod | cel | sing | Splf | hand | s&l-2 | Remy | |
| Hahn CD | 1½ | | | P&B | p-stl | flex | sol* | 36x3½ | 36x5 | Sch* | wd* | Cont | 4-3½x5 -22.5 | 4 | cent | own | cst | own | fin | sing | Bosch* | hand | s&l | Delco | 150 |
| Hahn Et | 2½ | | 144 | Prsh | p-stl | flex | sol* | 36x4 | 36x8 | Sch* | wd* | Cont | 4-4½x5½-32.4 | 2 | cent | own | cst | Chgo | fin | sing | Bosch* | hand | sl&i | Delco | 150 |
| Hahn F | 3½ | | 165 | Savg* | p-stl | flex | sol* | 36x5 | 36x10 | Bim* | wd* | Cont | 4-4½x5½-32.4 | 2 | cent | own | cst | Chgo | fin | sing | Bosch | hand | s&l | Delco | 150 |
| Halfur E | 1 | 2,350 | 136 | P&B | p-stl | s-flex | pnu | 35x5 | 35x5 | Stn | wd | Hink | 4-4 x5½-25.6 | 4 | cent | own | cst | G&O | fin | sing | Bosch | hand | s&l-2 | West | 200 |
| Halfur B | 2½ | 3,250 | 168 | P&B | p-stl | s-flex | sol* | 35x5 | 36x7 | Sth | mt | Hink | 4-4½x5½-29.0 | 4 | cent | own | cst | G&O | fin | sing | Bosch | hand | s&l-2 | West | 200 |
| Hall | 1½ | 3,100 | | own | p-stl | | pnu | 34x5 | 38x7 | | mt | Cont | 4-3½x5 -22.5 | 4 | cent | own | | own | fin | | Bosch | | s&l | Delco | |
| Hall | 2½ | 3,275 | 168 | own | rol-c | rigid | sol | 36x4 | 36x6 | Sth | mt | Cont | 4-4½x5½-27.3 | 4 | cent | Lng | cst | Lng | fin | sing | Bosch | fixed | lghtg | Bosch | |
| Hall | 3½ | 4,100 | 168 | own | rol-c | rigid | sol | 36x5 | 36x5d | Sth | mt | Cont | 4-4½x5½-32.4 | 2 | cent | Lng | cst | Lng | fin | sing | Bosch | fixed | lghtg | Bosch | |
| Hall | 5 | 5,100 | 168 | own | rol-c | rigid | sol | 36x5 | 40x6d | Sth | mt | Cont | 4-4½x5½-32.4 | 2 | cent | Lng | cst | Lng | fin | sing | Bosch | fixed | lghtg | Bosch | |
| Hall | 7 | 5,100 | 147 | own | rol-c | rigid | sol | 36x5 | 40x6d | Sth | mt | Cont | 4-4½x5½-32.4 | 2 | cent | Lng | cst | Lng | fin | sing | Bosch | fixed | lghtg | Bosch | |
| Harvey Wea | 1½ | 2,550 | 132 | own | p-stl | flex | sol | 34x3½ | 34x5 | Crn | wd | Buda | 4-4½x5½-27.2 | 4 | cent | Chgo | cst | Chgo | fin | sing | Bosch | fixed | | | |
| Harvey Wfa | 2½ | 3,300 | 150 | own | rol-c | rigid | sol | 36x4 | 36x7 | Crn | wd | Buda | 4-4½x5½-29.0 | 4 | cent | Chgo | cst | Chgo | fin | sing | Eismn | auto | | | |
| Harvey Wha | 3½ | 4,300 | 160 | own | rol-c | rigid | sol | 36x5 | 36x5d | Crn | wd | Buda | 4-4½x6 -32.4 | 4 | cent | Chgo | cst | Chgo | fin | sing | Eismn | auto | | | |
| Harvey Wka | 5 | 5,200 | 160 | own | rol-c | rigid | sol | 36x6 | 40x6d | Sth | mt | Buda | 4-4½x6 -32.4 | 4 | cent | Chgo | cst | Chgo | fin | sing | Eismn | auto | | | |
| Hawkeye K | 1½ | 2,365 | 148½ | own | rol-c | s-flex | sol* | 34x3½ | 34x5 | Bim | wd | Buda | 4-3½x5½-22.5 | 4 | cent | own | cst | Idl | cel | sing | Eismn | hand | s&l-2 | opt | 150 |
| Hawkeye M | 2 | 2,915 | 148½ | own | rol-c | s-flex | sol* | 36x4 | 36x6 | Bim | wd | Buda | 4-4½x5½-29.0 | 4 | cent | own | cst | Idl | cel | sing | Eismn | hand | s&l-2 | opt | 150 |
| Hawkeye N | 3½ | 4,345 | 174 | own | rol-c | s-flex | sol* | 38x7 | 44x10 | Clrk | mt | Buda | 4-4½x6 -32.4 | 4 | cent | own | cst | Idl | cel | sing | Eismn | hand | s&l-2 | West | |
| Hendrickson I | 2½ | 3,300 | 155 | own | rol-c | rigid | opt | 36x4 | 36x7 | Stn | mt | Buda | 4-4½x5½-29.0 | 4 | cent | Chgo | cst | Chgo | fin | sing | Spltf | hand | none | | |
| Hendrickson J | 3½ | 4,200 | 175 | own | rol-c | rigid | opt | 36x5 | 36x5d | Stn | mt | Buda | 4-4½x5½-29.0 | 4 | cent | Chgo | cst | Chgo | fin | sing | Spltf | hand | none | | |
| Higrade A18 | 1 | 2,100 | 115 | own | p-stl | flex | pnu | 35x5 | 35x5 | Prud | wd | Cont | 4-3½x5 -19.6 | 4 | ther | own | cst | Pfx | cel | sing | Eismn | hand | c&l | none | |
| Higrade B20 | 1½ | 2,500 | 130 | own | p-stl | flex | pnu | 35x4 | 36x6 | Det | wd | Cont | 4-4½x5½-27.2 | 4 | cent | own | prs | C-D | fin | sing | Eismn | hand | c&l | | |
| Huffman C | 1½ | 1,875 | 140 | Hyd | p-stl | s-flex | sol | 34x3½ | 34x | Roy | wd | Buda | 4-3½x5½-22.5 | 4 | ther | Lvgn | cst | Lvgn | zz-t | sing | Eismn | hand | none | | |
| Huffman B | 1½ | 2,075 | 140 | Hyd | p-stl | s-flex | sol | 34x3½ | 34x6 | Roy | wd | Cont | 4-3½x5 -22.5 | 4 | ther | Lvgn | cst | Lvgn | zz-t | sing | Eismn | hand | none | | |
| Independent F | 1½ | 2,585 | 140 | Shar | p-stl | s-flex | opt | 36x3½ | 36x5 | Sth | mt | Cont | 4-4½x5 -22.5 | 4 | cent | Lng | cst | Lng | fin | sing | Eismn | fixed | | | |
| Independent H | 2½ | 3,285 | 148 | Shar | p-stl | s-flex | opt | 36x4 | 36x4d | Sth | mt | Cont | 4-4½x5½-27.2 | 2 | cent | Lng | cst | Lng | fin | sing | Eismn | fixed | | | |
| Independent K | 3½ | 4,285 | 160 | Shar | p-stl | s-flex | sol | 36x5 | 36x5d | Sth | mt | Cont | 4-4½x5½-32.4 | 2 | cent | Lng | cst | Lng | fin | sing | Eismn | fixed | | | |
| Indiana 12 | 1½ | 2,290 | 134 | own | rol-c | s-flex | sol* | 34x3½ | 34x5 | Bim | wd | Wau | 4-3½x5½-22.5 | 4 | cent | MeC | cst | MeC | fin | sing | Eismn | hand | s&l | West | 175 |
| Indiana 20 | 2 | 2,950 | 150 | own | rol-c | s-flex | sol* | 36x4 | 36x7 | Day | mt | own | 4-4½x5½-27.2 | 2 | cent | MeC | cst | MeC | fin | sing | Eismn | hand | s&l | West | 175 |
| Indiana 25 | 2½ | 3,150 | 156 | own | rol-c | s-flex | sol* | 36x4 | 36x8 | Day | mt | own | 4-4½x5½-27.2 | 2 | cent | MeC | cst | MeC | fin | sing | Eismn | hand | s&l | West | 175 |
| Indiana 35 | 3½ | 3,750 | 160 | own | rol-c | s-flex | sol* | 36x5 | 36x5d | Sth | mt | own | 4-4½x5½-30.6 | 2 | cent | MeC | cst | MeC | fin | sing | Eismn | hand | s&l | West | 175 |
| Indiana 51 | 5 | 4,775 | 170 | own | rol-c | s-flex | sol* | 36x5 | 40x6d | Sth | mt | Wau | 4-5 x6½-40.0 | 2 | cent | MeC | cst | MeC | fin | sing | Eismn | hand | s&l | West | 175 |
| Inland D | 2 | 2,950 | 132 | own | rol-c | | sol | 34x5 | 34x6 | Bim | wd | Wsc | 4-4 x5 -25.6 | 4 | cent | L-g | cst | Lng | fin | sing | Spltf | hand | none | | |
| International S | ½ | 1,500 | 124 | P&B | p-stl | s-flex | pnu | 34x5 | 34x5 | Crn* | wd | Lyc | 4-3½x5 -19.6 | 4 | ther | Lng | prs | Lng | fin | sing | Conn | hand | s&l | Auto | |
| International H | ½ | 1,850 | 115 | P&B | p-stl | s-flex | opt | 36x3 | 36x3½ | own | wd | own | 4-3½x5½-19.6 | 4 | cent | own | prs | own | fin | sing | Bosch | hand | | | |
| International F | 1 | 2,050 | 128 | P&B | p-stl | s-flex | opt | 36x3½ | 36x4 | own | wd | own | 4-3½x5½-19.6 | 4 | cent | own | prs | own | fin | sing | Bosch | hand | | | |
| International K | 1½ | 2,400 | 129 | P&B | p-stl | s-flex | opt | 36x3½ | 36x5 | own | wd | own | 4-3½x5½-19.6 | 4 | cent | own | prs | own | fin | sing | Bosch | hand | | | |
| International G | 2 | 2,800 | 138 | P&B | p-stl | s-flex | opt | 36x4 | 36x6 | own | wd | own | 4-4½x5 -29.0 | 4 | ther | own | prs | own | fin | sing | Splf | hand | | | |

**ABBREVIATIONS—Types of Construction**

***—other options**
**amid**—amidships
**auto**—automatic
**bevl**—bevel
**cel**—cellular
**cent**—centrifugal
**chn**—chain
**cst**—cast
**ctr**—center
**cylinders cast, 2 in pairs**
**cylinders cast, 4 in block**
**cylinders cast, 3 in threes**
**cylinders cast, 1 singly**
**cyl-ends**—cylinder-ends
**d**—dual
**d-d**—dry-disk
**d-p**—dry-plate
**dplx**—from both motor & driveshaft
**d-rd**—double reduction
**d-s**—drive-shaft
**elec**—electric
**ext-d-s**—external drive-shaft
**ext-f-w**—external front wheel
**ext-g**—external gear
**ext-jst** — external jack-shaft
**ext-r-w**—external rear wheel
**fab**—fabric
**fln**—finned tube
**flex**—flexible
**f-m**—fabric & metal
**fric**—friction
**g-p**—gear pump
**grv**—gravity
**gset**—from gearset
**hyd**—hydraulic
**ind-c**—individual clutch
**int-g**—internal gear
**int-g-4** — internal gear drive on 4 wheels
**int-r-w**—internal rear wheel
**jst**—unit with jackshaft
**l**—left
**l-b**—loose ball
**lghtg**—lighting only
**mtr**—unit with motor
**mt**—metal (wheels)
**mtl**—metal (universal joint)
**opt**—optional
**plst**—piston pump
**plan**—planetary
**pln**—plain tube
**pnu**—pneumatic
**pres**—pressure
**prog**—progressive
**prs**—pressed steel
**p&s**—pneumatics in front solids in rear
**p-stl**—pressed steel
**r**—right
**r&c**—right & center
**r-rd**—radius rods
**rol-c**—rolled channel
**rol-i**—rolled I-beam
**selec**—selective
**s-flex**—semi-flexible
**s-fr**—sub-frame
**sht**—sheet
**s&l**—starting & lighting
**sl&i-2**—starting, lighting & ignition, 2 unit
**sol**—solid
**sprgs**—springs
**sq-t**—square tube
**start**—starting only
**suct**—suction
**t-arm**—torque arm
**ther**—thermo-syphon
**t-p**—two-point
**t-t**—torsion tube
**vac**—vacuum
**wat-tube**—water tube
**wd**—wood
**w-d**—multiple disk in oil
**w-p**—plate in oil
**wr**—wire
**zz-t**—zig-zag tube

**ABBREVIATIONS—Makers of Parts.**

***Other Options**
**A-Knt**—Atwater-Kent
**Al-Ch**—Allis-Chalmers
**Amer** — American Magneto Co.
**Arch**—Archibald
**Aut-L**—Auto-Lite
**Auto**—Auto Wheel Co.
**B-Beck**—Borg & Beck
**BCA**—Bearings Co. of Am.
**Berlg**—Berling
**Bim**—Bimel
**Bl&Fl**—Blood & Flexite
**B-Lipe**—Brown-Lipe
**Blood**—Blood Bros.
**Bl&P**—Blood & Peters
**Bl&Sp**—Blood & Spicer
**B-M**—Bucyrus Mach. Tool
**Brem**—Bremer
**Cart**—Carter carburetor
**Cas**—G. M. Castle
**CAS**—C. A. S. products
**C-D**—Curran-Detroit Radiator Co.
**Chgo**—Chicago Mfg. Co.
**Chic**—Chicago Standard
**Chmp**—Champion Auto Spring Co.
**Clrk**—Clark Equip. Co.
**Cocn**—Corcoran Radiator Co.
**Col**—Columbia Axle Co.
**Cont**—Continental motor
**Conn**—Connecticut
**Crn**—Crane & MacMahon
**Crn-S**—Crane & MacMahon and Standard
**Day**—Dayton wheel
**Detlaf**—Detlaff
**Det** — Detroit Wheel & Rim
**Detrt**—Detroit G. & M.
**Ditl**—Disteel Wheel Co.
**Pitw**—Pitwiler Mfg. Co.
**Dnet**—Dyneto

# Gasoline Motor Trucks for 1921—Cont.

| ENGINE | | | | | | | | | | TRANSMISSION | | | | | | | | | | | BRAKES | | CONTROL | | | UNIVERSALS | | Name and Model |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GOVERNOR | | | SPEED | | FUEL SYS. | | CLUTCH | | | GEARSET | | | | FINAL DRIVE | | | | | | | | | STEER'G GEAR | | | | | |
| Type | Make | Drive | Motor in r.p.m. | Truck in m.p.h. | Carbureter Make | Fuel Feed | Type | Make | | Type | Make | Placed | Speeds | Type | Rear Axle Make | Total Gear Reduction | Propulsion Taken By | Torque Taken By | Springs Make | | Foot | Hand | Placed | Make | Levers | Type | Make | |
| none | | | 2200 | 35 | Carter | grv | d-p | Dur | selec | Dur | mtr | 3 | bevel | Col | | 6.80 | sprgs | sprgs | Rowl | | ext-r-w | int-r-w | L | Lavn | ctr | mtl | Spicer | Fulton | A |
| none | | | 2200 | 25 | Carter | grv | d-d | Covert | selec | Covert | mtr | 3 | int-g | Russl | | 10.20 | sprgs | sprgs | Rowl | | ext-r-w | ext-d-s | L | Lavn | ctr | mtl | Spicer | Fulton | C |
| none | | | | | Stmbg | grv | d-d | B-Lipe | selec | own | amid | 3 | worm | Timkn | | 7.75 | sprgs | sprgs | S-P | | int-r-w | int-r-w | l* | Ross | ctr | f-m | Sn&Sp | Garford | 25B |
| cent | Simp | motor | 1085 | 15 | Stmbg | grv | d-d | B-Lipe | selec | own | amid | 4 | worm | Timkn | | 7.75 | sprgs | sprgs | S-P | | int-r-w | int-r-w | L | Ross | ctr | mtl | Spicer | Garford | 70H |
| cent | Simp | motor | 1057 | 11 | Rayfld | grv | d-d | B-Lipe | selec | own | jst | 4 | chn | own | | 11.44 | r-rd | | S-P | | ext-d-s | int-r-w | r | Ross | r | mtl | Spicer | Garford | 68 |
| cent | Simp | motor | 1144 | 14 | Stmbg | grv | d-d | B-Lipe | selec | B-Lipe | amid | 4 | worm | Timkn | | 8.75 | sprgs | sprgs | S-P | | int-r-w | int-r-w | L | Ross | ctr | mtl | Spicer | Garford | 77D |
| auct | McCn | motor | 1250 | 18 | Mas | grv | d-d | Fuller | selec | Fuller | amid | 3 | worm | Timkn | | 7.25 | sprgs | sprgs | Dtr | | int-r-w | int-r-w | L | Ross | ctr | mtl | Hart | Gary | I |
| auct | McCn | motor | 1200 | 15 | Mas | grv | d-d | Fuller | selec | Fuller | amid | 4 | worm | Timkn | | 8.50 | sprgs | sprgs | Dtr | | int-r-w | int-r-w | L | Ross | ctr | mtl | Hart | Gary | J |
| auct | McCn | motor | 1050 | 12 | Mas | grv | d-d | B-Lipe | selec | B-Lipe | amid | 4 | worm | Timkn | | 10.33 | sprgs | sprgs | Dtr | | int-r-w | int-r-w | L | Ross | ctr | mtl | Hart | Gary | KT |
| auct | McCn | motor | 980 | 10 | Mas | grv | d-d | B-Lipe | selec | B-Lipe | amid | 4 | worm | Timkn | | 11.70 | sprgs | sprgs | Dtr | | int-r-w | int-r-w | L | Ross | ctr | mtl | Spicer | Gary | M |
| auct | Mnrch | motor | 1150 | 20 | Marvl | grv | d-d | own | selec | own | amid | 3 | bevel | own | | 6.00 | r-rd | sprgs | Dtr | | ext-r-w | int-r-w | L | own | ctr | mtl | Unvsl | G.M.C | 16 |
| auct | Mnrch | motor | 1300 | 15 | Marvl | grv | d-d | own | selec | own | amid | 4 | worm | Timkn | | 9.25 | r-rd | sprgs | Dtr | | int-r-w | int-r-w | L | own | ctr | mtl | own | G.M.C | 31 |
| auct | Mnrch | motor | 1210 | 14 | Marvl | grv | d-d | own | selec | own | amid | 4 | worm | Timkn | | 9.25 | r-rd | sprgs | Dtr | | int-r-w | int-r-w | L | own | ctr | mtl | own | G.M.C | 41 |
| auct | Mnrch | motor | 1210 | 12 | Marvl | grv | d-d | own | selec | own | amid | 4 | worm | Timkn | | 12.00 | r-rd | sprgs | Dtr | | int-r-w | int-r-w | L | own | ctr | mtl | own | G.M.C | 71 |
| auct | Mnrch | motor | 1150 | 10 | Marvl | grv | d-d | own | selec | own | amid | 4 | worm | Timkn | | 13.67 | r-rd | sprgs | Dtr | | int-r-w | int-r-w | L | own | ctr | mtl | own | G.M.C | 101 |
| auct | Mnrch | motor | 1200 | 25 | Stmbg | grv | d-d | Fuller | selec | Fuller | mtr | 3 | int-g | Torbn | | 7.00 | sprgs | sprgs | Dtr | | ext-r-w | int-r-w | L | Lavn | ctr | mtl | Hart | Graham Bros | A |
| | | | 2400 | 45 | | grv | d-p | | selec | | mtr | 3 | bevel | | | | sprgs | sprgs | | | ext-r-w | ext-d-s | L | | ctr | fab | | Gramm-Bernstein | 10 |
| none | | | 1350 | 21 | Stmbg | grv | d-d | Fuller | selec | Fuller | amid | 3 | int-g | Clrk | | 7.60 | sprgs | sprgs | S-P | | ext-r-w | int-r-w | L | Ross | ctr | fab | own | Gramm-Bernstein | 15 |
| none | | | 1500 | 20 | Stmbg | grv | d-d | Fuller | ind-c | own | amid | 3 | worm | S-P | | 7.80 | sprgs | sprgs | S-P | | int-r-w | int-r-w | L | Ross | ctr | fab | own | Gramm-Bernstein | 45 |
| cent | Pierce | motor | 1350 | 18 | Stmbg | grv | d-d | Fuller | ind-c | own | amid | 4 | worm | Shel | | 7.75 | sprgs | sprgs | S-P | | int-r-w | int-r-w | L | Ross | ctr | fab | own | Gramm-Bernstein | 20 |
| cent | Hink | motor | 1250 | 17 | Stmbg | vac | d-d | own | ind-c | own | amid | 4 | worm | S-P | | 7.75 | sprgs | sprgs | S-P | | int-r-w | int-r-w | L | Ross | ctr | fab | own | Gramm-Bernstein | 25 |
| cent | Hink | motor | 1200 | 16 | Stmbg | vac | d-d | own | ind-c | own | amid | 4 | worm | S-P | | 8.75 | sprgs | sprgs | S-P | | int-r-w | int-r-w | L | Ross | ctr | fab | own | Gramm-Bernstein | 35 |
| cent | Cont | motor | 1150 | 13 | Stmbg | vac | d-d | own | ind-c | own | amid | 4 | worm | S-P | | 9.50 | sprgs | sprgs | S-P | | int-r-w | int-r-w | L | Ross | ctr | fab | own | Gramm-Bernstein | 50 |
| cent | Pierce | d-s | 1500 | 30 | Cart | vac | d-d | B-Lipe | selec | | mtr | 4 | int-g | Torbn | | 5.50 | sprgs | sprgs | S-P | | ext-r-w | int-r-w | L | Jacox | ctr | mtl | Peters | Grant | 17 |
| cent | Pierce | motor | 1400 | 25 | Stmbg | grv | d-d | B-Lipe | selec | B-Lipe | mtr | 3 | worm | Timkn | | | sprgs | sprgs | Merl | | int-r-w | int-r-w | L | Ross | ctr | mtl | Spicer | Hahn | CD |
| cent | Pierce | motor | 1400 | 32 | Stmbg | grv | d-d | B-Lipe | selec | B-Lipe | mtr | 3 | worm | Timkn | | | r-rd | sprgs | Merl | | int-r-w | int-r-w | L | Ross | ctr | mtl | Spicer | Hahn | EE |
| cent | Pierce | motor | 1400 | 32 | Stmbg | grv | d-d | B-Lipe | selec | B-Lipe | amid | 4 | worm | Timkn | | | r-rd | sprgs | Merl | | int-r-w | int-r-w | L | Ross | ctr | mtl | Spicer | Hahn | F |
| cent | Hink | motor | 1200 | 25 | Stmbg | vac | d-p | B-Beck | selec | B-Lipe | amid | 4 | worm | Timkn | | 4.70 | r-rd | sprgs | S-P | | int-r-w | int-r-w | L | Gem | ctr | mtl | Peters | Haifur | E |
| cent | Hink | motor | 1200 | 20 | Stmbg | vac | d-p | B-Beck | selec | B-Lipe | amid | 4 | worm | Timkn | | 5.60 | r-rd | sprgs | S-P | | int-r-w | int-r-w | L | Gem | ctr | mtl | Peters | Haifur | B |
| | Simp | | | | Zenith | | d-d | Fuller | | Fuller | | | worm | Timkn | | | | | Dtr* | | | | | Gem | | | | Hall | |
| cent | Dplx | dplx | 1200 | 18 | Zenith | grv | d-d | B-Lipe | selec | B-Lipe | mtr | 3 | worm | Timkn | | | sprgs | sprgs | Dtr* | | int-r-w | int-r-w | L | Gem | ctr | mtl | Spicer | Hall | |
| cent | Dplx | dplx | | 15 | Zenith | grv | d-d | B-Lipe | selec | B-Lipe | amid | 4 | worm | Timkn | | | sprgs | sprgs | Dtr* | | int-r-w | int-r-w | L | Gem | ctr | mtl | Spicer | Hall | |
| cent | Dplx | plx | | 15 | Zenith | grv | d-d | B-Lipe | selec | B-Lipe | amid | 4 | worm | Timkn | | | sprgs | sprgs | Dtr* | | int-r-w | int-r-w | L | Gem | ctr | mtl | Spicer | Hall | |
| cent | Dplx | plx | | 15 | Zenith | grv | d-d | B-Lipe | selec | B-Lipe | amid | 4 | chn | Timkn | | | sprgs | sprgs | Dtr* | | int-r-w | int-r-w | L | Gem | ctr | mtl | Spicer | Hall | |
| auct | Mnrch | motor | 1200 | 18 | Stmbg | grv | d-d | Fuller | selec | Fuller | mtr | 3 | worm | Shel | | 7.75 | sprgs | sprgs | Shel | | int-r-w | int-r-w | L | Ross | ctr | mtl | Spicer | Harvey | Wea |
| auct | Mnrch | motor | 1200 | 16 | Stmbg | grv | d-d | B-Beck | selec | B-Lipe | amid | 4 | worm | Shel | | 7.75 | sprgs | sprgs | Shel | | int-r-w | int-r-w | L | Ross | ctr | mtl | Spicer | Harvey | Wfa |
| auct | Mnrch | motor | 1000 | 14 | Stmbg | grv | d-p | B-Beck | selec | B-Lipe | amid | 4 | worm | Shel | | 8.75 | sprgs | sprgs | Shel | | int-r-w | int-r-w | L | Ross | ctr | mtl | Spicer | Harvey | Wha |
| auct | Mnrch | motor | 1000 | 13 | Stmbg | grv | d-p | B-Beck | selec | B-Lipe | amid | 4 | worm | Shel | | 10.25 | sprgs | sprgs | Shel | | int-r-w | int-r-w | L | Ross | ctr | mtl | Spicer | Harvey | Wka |
| cent | Dplx | motor | 1175 | 16 | Zenith | grv | d-d | Fuller | selec | Fuller | mtr | 3 | int-g | Clrk | | 7.60 | sprgs | sprgs | Dtr | | ext-r-w | int-r-w | L | Ross | ctr | mtl | Hart | Hawkeye | K |
| cent | Dplx | motor | 1175 | 14 | Zenith | grv | d-d | Fuller | selec | Fuller | mtr | 4 | int-g | Clrk | | 8.00 | sprgs | sprgs | Dtr | | ext-l-s | int-r-w | L | Ross | ctr | mtl | Hart | Hawkeye | M |
| cent | Simp | motor | 1175 | 12 | Zenith | grv | d-d | Fuller | selec | Cotta | amid | 4 | int-g | Clrk | | 10.00 | sprgs | sprgs | Dtr | | int-r-w | int-r-w | L | Ross | ctr | mtl | Hart | Hawkeye | N |
| auct | McCn | | 1000 | 15 | Stmbg | grv | d-d | Fuller | selec | Fuller | mtr | 4 | worm | Timkn | | 7.75 | r-rd | sprgs | Tuth | | int-r-w | int-r-w | L | Ross | ctr | fab | Ther | Hendrickson | I |
| auct | McCn | | 1000 | | Stmbg | grv | d-d | Fuller | selec | Fuller | | 4 | worm | Timkn | | 10.3 | r-rd | sprgs | Tuth | | int-r-w | int-r-w | L | Ross | ctr | fab | Ther | Hendrickson | J |
| none | | | | | Zenith | vac | d-d | Fuller | selec | Fuller | mtr | 3 | worm | Shel | | 7.75 | sprgs | sprgs | Dtr | | int-r-w | int-r-w | L | Lavn | ctr | mtl | Blood | Higrade | A18 |
| none | | | | | | vac | d-d | Fuller | selec | Fuller | mtr | 3 | worm | Wis | | 7.75 | sprgs | sprgs | Dtr | | int-r-w | int-r-w | L | Lavn | ctr | mtl | Blood | Higrade | B20 |
| auct | Mnrch | motor | 1500 | 18 | Zenith | grv | d-d | Fuller | selec | Fuller | mtr | 3 | int-g | Torbn | | 8.00 | sprgs | sprgs | S-P | | ext-r-w | int-r-w | L | Lavn | ctr | mtl | Hart | Huffman | C |
| auct | Mnrch | motor | 1500 | 18 | Zenith | grv | d-d | Fuller | selec | Fuller | mtr | 3 | worm | | | 8.66 | sprgs | sprgs | S-P | | int-r-w | int-r-w | L | Lavn | ctr | mtl | Hart | Huffman | B |
| cent | | motor | 1500 | 18 | | grv | d-d | Fuller | prog | Fuller | mtr | 3 | worm | Wis | | 8.25 | sprgs | sprgs | Math | | int-r-w | int-r-w | L | Ross | ctr | mtl | Spicer | Independent | F |
| cent | | motor | 1300 | 14 | | grv | d-d | Fuller | prog | Fuller | mtr | 3 | worm | Wis | | 9.66 | sprgs | sprgs | Math | | int-r-w | int-r-w | L | Ross | ctr | mtl | Spicer | Independent | H |
| cent | | motor | 1300 | 14 | | grv | d-d | Fuller | prog | Fuller | mtr | 4 | worm | Wis | | 10.00 | sprgs | sprgs | Math | | int-r-w | int-r-w | L | Ross | ctr | mtl | Spicer | Independent | K |
| cent | Wau | motor | 1300 | 18 | Stmbg | grv | d-p | B-Beck | selec | B-Lipe | amid | 3 | worm | Shel | | 7.80 | r-rd | sprgs | Shel | | int-r-w | int-r-w | L | Wol | ctr | f-m | Sn&Ac | Indiana | 12 |
| cent | Pierce | motor | 1160 | 16 | Stmbg | grv | d-p | B-Beck | selec | B-Lipe | amid | 4 | worm | Shel | | 7.75 | r-rd | sprgs | Shel | | int-r-w | int-r-w | L | Wol | ctr | f-m | Sn&Sp | Indiana | 20 |
| cent | Pierce | motor | 1160 | 16 | Stmbg | grv | d-p | B-Beck | selec | B-Lipe | amid | 4 | worm | Shel | | 7.75 | r-rd | t-arm | Shel | | int-r-w | int-r-w | L | Wol | ctr | f-m | Sn&Sp | Indiana | 25 |
| cent | Pierce | motor | 1150 | 12 | Stmbg | grv | d-p | B-Beck | selec | B-Lipe | amid | 4 | worm | Shel | | 10.25 | r-rd | sprgs | Shel | | int-r-w | int-r-w | L | Wol | ctr | f-m | Sn&Sp | Indiana | 35 |
| cent | Wau | motor | 1000 | 12 | Stmbg | grv | d-p | B-Beck | selec | B-Lipe | amid | 4 | worm | Shel | | 10.21 | r-rd | sprgs | Shel | | int-r-w | int-r-w | L | Wol | ctr | f-m | Sn&Sp | Indiana | 51 |
| none | | | 1600 | 18 | Schblr | grv | d-d | Fuller | selec | Fuller | mtr | 4 | int-g | Torbn | | 9.00 | sprgs | sprgs | Math | | ext- | int- | L | Lavn | ctr | mtl | Unvsl | Inland | D |
| none | | | 1500 | 30 | Ens | vac | d-d | Munc | selec | Munc | mtr | 3 | int-g | Torbn | | 6.30 | sprgs | sprgs | Stand | | ext-r-w | int-r-w | L | CAS | ctr | fab | Snead | International | S |
| cent | own | motor | 1275 | 20 | Ens | grv | d-d | own | selec | own | amid | 3 | int-g | own | | 6.80 | sprgs | sprgs | Stand | | int-r-w | int-r-w | L | own | ctr | mtl | own | International | H |
| cent | own | motor | 1275 | 17 | Ens | grv | d-d | own | selec | own | amid | 3 | int-g | own | | 7.90 | sprgs | sprgs | Stand | | int-r-w | int-r-w | L | own | ctr | mtl | own | International | F |
| cent | own | motor | 1275 | 15 | Ens | grv | d-d | own | selec | own | amid | 3 | int-g | own | | 8.96 | sprgs | sprgs | Stand | | int-r-w | int-r-w | L | own | ctr | mtl | own | International | K |
| cent | own | motor | 1150 | 13 | Ens | grv | d-d | own | selec | own | amid | 3 | int-g | own | | 8.90 | sprgs | sprgs | Stand | | int-r-w | int-r-w | L | own | ctr | mtl | own | International | G |

**ABBREVIATIONS—Makers of Parts—(Con)—**

**Dplx**—Duplex governor
**Drt**—Detroit Pressed Steel Co.
**Dtr**—Detroit Products
**Dtrt**—Detroit lubricator
**Dun**—Dunbar Mfg. Co.
**Dund**—Dundore Mfg. Co.
**Dunk**—Dunkirk Axle Corp.
**Dur**—Durston Gear Corp.
**Elyr**—Elyria Steel Products Co.
**E&M**—English & Mersick
**E&O**—Eberly & Orris
**Eismn**—Eisemann
**Ens**—Ensign carburetor
**Erie**—Ericsson Mfg. Co.
**Eurk**—Eureka
**Fed**—Fedders
**GB&S**—Golden, Belknap & Schwartz
**G&D**—Gray & Davis
**G&O**—G & O Mfg. Co.
**GCS**—Garden City springs
**Gem**—Gemmer
**G-Lees**—Grant-Lees
**Godn**—Gordan Radiator Co.
**Har**—Harrison
**Hart**—Hartford
**Harv**—Harvey
**Hay**—Hayes Wheel Co.
**H&D**—Hoopes Bros. & Darlington
**H&K**—Hale & Kilburn
**Her**—Hercules
**Hghy**—Highway Engine Co.
**Hink**—Hinkley
**H-Shaw**—Hele-Shaw
**H-S**—Herschell-Spillman
**Hyd**—Hydraulic
**Idl**—Ideal
**Int**—Interstate
**Iron**—Iron City
**Jacox**—Jackson-Church-Wilcox
**Jck**—Jackson Auto Rad.
**Jmst**—Jamestown Car Parts
**Jns**—Phineas Jones & Co.
**John**—Johnson Co.
**K&B**—Kinsler & Bennet
**Kel**—Kelsey Wheel Co.
**Kug**—Kueng Radiator Co.
**K.W.**—K.W. Ignition Co.
**Laur**—Lauraine Magneto
**Lavn**—Lavine
**LeR**—Le Roi engine
**Lght**—Light Mfg. Co.
**Liggt**—Liggett Spring & Axle Co.
**L-N**—Leece-Neville Co.
**Lng**—Long
**Lvgn**—Livingston
**Lyc**—Lycoming
**Marm**—Maremont Mfg. Co.
**McCn**—McCanna
**M&E**—Merchant & Evans
**McC**—McCord
**Mech**—Mechanics Machine
**Merl**—Merrill Spring Co.
**Mnrch**—Monarch
**Mod**—Modine Mfg. Co.
**Morg**—Morgan Mfg. Co.
**Math**—Mather
**Munc**—Muncle
**MWC**—Motor Wheel Corp.
**Natl**—National Can Co.
**Natn**—National Axle Co.
**N-E**—North East
**Own&Sp**—Own & Spicer
**P&B**—Parish & Bingham
**Pfx**—Perfex radiator
**Pgh**—Pittsburgh Pressed Steel
**Phro**—Pharo Mfg. Co.
**Pitt**—Pittsburgh Model Engine Co.
**Prsh**—Parish Mfg. Co.
**Prud**—Prudden
**Rayfld**—Rayfield
**Rowl**—Wm. H. Rowland
**Roy**—Royer Wheel Co.
**R-T**—Rome-Turney
**Russl**—Russel Axle Co.
**Sag**—Saginaw
**Sal**—Salisbury
**Savg**—Savage Arms
**Sch**—Schwarz Wheel Co.
**Schblr**—Schebler
**Shar**—Sharon Pressed Steel Co.
**Shel**—Sheldon
**Sim**—Simms Magneto Co.
**Simp**—Simplex
**S-K**—Slick Knox Steel Co.
**Smh**—A. O. Smith
**Sn & Ac**—Snead & Acme
**Sn&Sp**—Snead & Spicer
**S-P**—Standard Parts Co.
**Sp&Fl**—Spicer & Flexite
**Spltf**—Splitdorf
**Sp-P**—Spring Perch Co.
**Sp&Pet**—Spicer & Peters
**Stan**—Standard radiator
**Stand**—Standard Steel Spring Co.
**Sterl**—Sterling bearings
**Stmbg**—Stromberg
**Stn**—Standard Wheel Co.
**Sth**—Smith steel wheel
**S-W**—Sparks-Withington
**Th&Ba**—Thermoid & Baker
**Th&Bl**—Thermoid & Blood
**Therm**—Thermoid
**Th—Sp**—Thermoid & Spicer
**Till**—Tillotson
**Timkn**—Timken
**Torbn**—Torbensen
**Trav**—Traverse City Iron Works
**T-S**—Turner-Seymour
**Tuth**—Tuthill
**Unv**—Universal
**Unvsl**—Universal Mach.
**U.P.**—U. P. Products Co.
**U.S.**—U. S. Spring Co.
**Wab**—Wabash Radiator Co.
**Warn**—Warner
**Wau**—Waukesha
**Way**—Wayne Wheel Co.
**Wel**—Weldley
**West**—Westinghouse
**We-W**—Western Wheel Co.
**Wis**—Wisconsin Parts
**Wol**—Wohlrab
**W-S**—West Steel Castings Co.
**Wse**—Wisconsin engine
**Yng**—Youngstown Pressed Steel Co.

# Complete Mechanical Specifications of

| Name and Model | Tons Capacity | Chassis Price | Wheelbase, Inches | FRAME | | | TIRES | | | WHEELS | | ENGINE | | | COOLING | | | | | IGNITION | | | ELEC. SYSTEM | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Size in Ins. | | | | | | | | | RADIATOR | | | | | | | | | |
| | | | | | | | | | | | | | | | | CASE | | CORE | | | | | | |
| | | | | Make | Material | Type | Kind | Front | Rear | Make | Type | Make | No. Cyl. Bore and Stroke N.A.C.C. Hp. | Cylinders Cast | Water Circ. | Make | Type | Make | Type | Type | Make | Spark Advance | Type | Make | Extra Cost $ |
| International | L | 3½ | 4,500 | 160 | P&B | p-stl | s-flex | sol | 36x5 | 40x10 | own | wd | own | 4-4½x5 -29.0 | 4 | ther | own | prs | own | fin | sing | Splf | hand | | | |
| Jackson | 4WD | 3½ | 4,250 | 150 | Cas | p-stl | s-flex | sol | 36x7 | 36x7 | Stn | wd | Cont | 4-4½x5½ -32.4 | 2 | cent | Lng | est | Lng | fin | sing | Aut-L | hand | sl&i | Aut-L | |
| Jumbo | 15 | 1½ | 2,850 | 144½ | Drt | p-stl | s-flex | sol | 36x3½ | 36x5 | ..... | wd | Buda | 4-3½x5½-22.5 | 4 | cent | own | est | G&O | fin | sing | N-E | hand | sl&i-2 | N-E | none |
| Jumbo | 20 | 2 | 3,100 | 144½ | Drt | p-stl | s-flex | pnu | 35x5 | 38x7 | ..... | wd | Buda | 4-3½x5½-22.5 | 4 | cent | own | est | G&O | fin | sing | N-E | hand | sl&i-2 | N-E | none |
| Jumbo | 25 | 2½ | 3,450 | 152½ | Drt | p-stl | s-flex | sol | 36x4 | 36x7 | Day | mt | Buda | 4-4½x5½-29.0 | 4 | cent | own | est | G&O | fin | sing | N-E | hand | lghtg | N-E | none |
| Jumbo | 30 | 3 | 3,950 | 152½ | Drt | p-stl | s-flex | pnu | 36x6 | 42x9 | Clrk | mt | Buda | 4-4½x5½-29.0 | 4 | cent | own | est | G&O | fin | sing | N-E | hand | lghtg | N-E | none |
| Jumbo | 35 | 3½ | 4,550 | 165 | Drt | p-stl | s-flex | sol | 36x5 | 36x10 | Clrk | mt | Buda | 4-4½ x6 -32.4 | 4 | cent | own | est | G&O | fin | sing | Eismn | hand | lghtg | N-E | none |
| Jumbo | 40 | 4 | 5,200 | 165 | Drt | p-stl | s-flex | pnu | 38x7 | 44x10 | Clrk | mt | Buda | 4-4 x6 -32.4 | 4 | cent | own | est | G&O | fin | sing | Eismn | hand | lghtg | N-E | none |
| J. & J. | D | 2 | 3,250 | 134 | own | rol-c | flex | sol | 34x4 | 34x6 | Bim | wd | Wsc | 4-4 x5 -25 6 | 4 | cent | own | est | Chgo | fin | sing | Amer | hand | lghtg | ..... | none |
| Kalamazoo | G2 | 1½ | ..... | 144 | own | rol-c | flex | sol* | 36x4 | 36x5 | Bim* | wd* | Cont | 4-3½x5 -22.5 | 4 | cent | own | est | G&O | fin | sing | Bosch | hand | s&l-2 | Dneto | none |
| Kalamazoo | H2 | 2½ | ..... | 160 | own | rol-c | flex | sol | 36x4 | 36x8 | Sth | mt | Wsc | 4-4 x6 -25 6 | 4 | cent | own | est | G&O | fin | sing | Bosch | hand | s&l-2 | Dneto | none |
| Kalamazoo | K2 | 3½ | ..... | 160 | own | rol-c | flex | sol | 36x5 | 36x10 | Sth | mt | Wsc | 4-4½x6 -27 8 | 4 | cent | own | est | G&O | fin | sing | Bosch | hand | s&l-2 | Dneto | none |
| Karavan | A | 2½ | ..... | 148 | own | rol-c | s-flex | sol* | 36x4 | 36x8 | Sth | mt | Buda | 4-4½x6 -29.0 | 4 | cent | own | est | Fed | fin | sing | Berlg | hand | s&l-2 | West | 200 |
| Kearns | H | ½ | 1,600 | 118 | Shar | p-stl | s-flex | pnu | 32x4½ | 32x4½ | Way | wd | Lght | 4-3½x4½-16.9 | 4 | ther | G&O | prs | G&O | cel | sing | Berlg | hand | s&l-2 | Dneto | none |
| Kearns | N | 1½ | 2,200 | 136 | P&B | p-stl | s-flex | sol* | 34x3½ | 34x6 | E&O | wd | H-S | 4-3½x5 -19.6 | 4 | ther | Bush | est | Bush | cel | sing | Berlg | hand | none | ..... | ..... |
| Kelly-Springfield | K34 | 1½ | 3,000 | 144 | own | p-stl | flex | sol | 36x3½ | 36x6 | Crn | wd | own | 4-3½x5½-22.5 | 4 | cent | Long | prs | Lng | fin | sing | Eismn | fixed | s&l-2 | West | 275 |
| Kelly-Springfield | K36 | 2½ | 3,500 | 144 | own | p-stl | s-flex | sol | 36x4 | 36x4d | Crn | wd | own | 4-3½x5½-22.5 | 4 | cent | Long | prs | Lng | fin | sing | Eismn | fixed | s&l-2 | West | 275 |
| Kelly-Springfield | K40 | 3½ | 4,400 | 150 | own | p-stl | flex | sol | 36x5 | 40x5d | Crn | wd | own | 4-4½x6½-32.4 | 2 | cent | Long | prs | Lng | fin | sing | Eismn | auto | s&l-2 | West | 275 |
| Kelly-Springfield | K42 | 3½ | 4,650 | 156 | own | p-stl | s-flex | sol | 36x5 | 40x5d | Smh | mt | own | 4-4½x6½-32.4 | 2 | cent | Long | prs | Lng | fin | sing | Eismn | hand | s&l-2 | West | 275 |
| Kelly-Springfield | K41 | 3½ | 4,650 | 156 | own | p-stl | s-flex | sol | 36x5 | 40x5d | Clk | mt | own | 4-4½x6½-32.4 | 2 | cent | Long | prs | Lng | fin | sing | Eismn | hand | s&l-2 | West | 275 |
| Kelly-Springfield | K45 | 4 | 4,550 | 150 | own | p-stl | flex | sol | 36x5 | 40x6d | Crn | wd | own | 4-4½x6½-32.4 | 2 | cent | Long | prs | Lng | fin | sing | Eismn | auto | s&l-2 | West | 275 |
| Kelly-Springfield | K50 | 5 | 5,150 | 150 | own | p-stl | flex | sol | 36x6 | 40x6d | Sth | mt | own | 4-4½x6½-32.4 | 2 | cent | Long | prs | Lng | fin | sing | Eismn | auto | s&l-2 | West | 275 |
| Kelly-Springfield | K60 | 6 | 5,500 | 150 | own | p-stl | flex | sol | 36x6 | 40x7d | Sth | mt | own | 4-4½x6½-32.4 | 2 | cent | Long | prs | Lng | fin | sing | Eismn | auto | s&l-2 | West | 275 |
| Keystone | 40 | 2 | 2,550 | 144 | own | rol-c | s-flex | pnu | 34x5 | 38x7 | Way | wd | Buda | 4-3½x5 -22.5 | 4 | cent | own | est | McC | fin | sing | Berlg | hand | ..... | ..... | ..... |
| K-Z | | 2½ | 3,250 | 150 | own | rol-c | s-flex | sol | 36x4 | 36x8 | Int | mt | Cont | 4-4½x5½-27.2 | 4 | cent | Chgo | est | Chgo | fin | sing | Bosch | fixed | none | ..... | ..... |
| K-Z | | 3½ | 4,250 | 156 | own | rol-c | s-flex | sol | 36x5 | 40x10 | ..... | mt | Her | 4-4½x5½-32.4 | 4 | cent | Chgo | est | Chgo | fin | sing | Bosch | fixed | none | ..... | ..... |
| Kissel | GU | 1½ | 2,775 | 152 | Smh | p-stl | rigid | sol | 36x3½ | 36x5 | Prud | wd | own | 4-3 x5½-24.0 | 4 | cent | McC | est | McC | fin | sing | Eismn | hand | sl&i-2 | Eismn | 150 |
| Kissel | F | 2½ | 3,475 | 168 | Smh | p-stl | rigid | sol | 36x4 | 36x7 | Prud | wd | own | 4-4½x5½-29.0 | 4 | cent | McC | est | McC | fin | sing | Eismn | hand | sl&i-2 | Eismn | 150 |
| Kissel | HD | 4 | 4,475 | 168 | Smh | p-stl | rigid | sol | 36x5 | 36x5 | Sth | mt | own | 4-4½x5½-29.0 | 4 | cent | McC | est | McC | fin | sing | Eismn | hand | sl&i-2 | Eismn | 150 |
| Kleiber | AA | 1 | 2,600 | 130 | own | rol-c | ..... | sol* | 34x3½ | 34x5 | own | wd | Cont | 4-4½x5½-27.2 | 4 | cent | own | est | R-T | fin | sing | Bosch | hand | lghtg | none | ..... |
| Kleiber | A | 1½ | 3,100 | 143 | own | rol-c | s-flex | sol* | 36x3½ | 36x6 | own | wd | Cont | 4-4½x5½-27.2 | 4 | cent | own | est | R-T | fin | sing | Bosch | hand | lghtg | none | ..... |
| Kleiber | BB | 2 | 4,000 | 153 | own | rol-c | s-flex | sol* | 36x4 | 36x7 | Sth | wd | Cont | 4-4½x5½-27.2 | 4 | cent | own | est | R-T | fin | sing | Bosch | hand | lghtg | none | ..... |
| Kleiber | B | 2½ | 4,200 | 160 | own | rol-c | s-flex | sol | 36x4 | 36x8 | Sth | mt | Cont | 4-4½x5½-32.4 | 2 | cent | own | est | R-T | fin | sing | Bosch | hand | lghtg | none | ..... |
| Kleiber | C | 3½ | 4,900 | 163 | own | rol-c | s-flex | sol | 36x5d | 36x5d | Sth | mt | Cont | 4-4½x5½-32.4 | 2 | cent | own | est | R-T | fin | sing | Bosch | hand | lghtg | none | ..... |
| Kleiber | D | 5 | 5,600 | 180 | own | rol-c | s-flex | sol | 36x6 | 40x12 | Sth | mt | Buda | 4-5 x6½-40.0 | 4 | cent | own | est | R-T | fin | sing | Bosch | hand | none | ..... | ..... |
| Koehler | C | 1½ | ..... | 131 | P&B | p-stl | s-flex | sol | 34x3 | 34x5 | Way | wd | H-S | 4-3½x5 -19.6 | 4 | ther | own | est | Godn | cel | sing | Eismn | fixed | none | ..... | ..... |
| Koehler | M | 2½ | 3,365 | 162 | P&B | p-stl | s-flex | sol | 36x4 | 36x7 | Way | wd | Her | 4-4 x5½-25.6 | 4 | cent | own | est | Godn | cel | sing | Eismn | fixed | none | ..... | ..... |
| Koehler | MT | 5 | 3,095 | 129 | P&B | p-stl | ..... | sol | 35x4 | 36x7 | Way | wd | Her | 4-4 x5½-25 6 | 4 | cent | own | est | Lng | fin | sing | Eismn | fixed | none | ..... | ..... |
| Lange | E | 2 | 3,350 | 136 | own | rol-c | rigid | opt | 36x4 | 36x6 | H&D | wd | Cont | 4-4 x3½-25.6 | 4 | ther | own | eht | Mod | cel | sing | Bosch | hand | ..... | none | ..... |
| Larrabee | U | 1½ | 2,400 | 138 | Savg | p-stl | s-flex | sol | 34x3½ | 34x5 | H&D | wd | Cont | 4-3½x5 -22.5 | 4 | ther | own | est | Bush | fin | sing | Bosch | hand | sl&i-2 | G&D | 200 |
| Larrabee | K | 2½ | 3,400 | .... | Savg | p-stl | s-flex | sol | 36x4 | 36x7 | H&D | wd | Cont | 4-4½x5½-27.2 | 4 | cent | own | est | Bush | fin | sing | Bosch | hand | sl&i-2 | Dneto | 200 |
| Larrabee | L | 3½ | 4,200 | .... | Savg | p-stl | s-flex | sol | 36x5 | 36x5d | Sth | mt | Cont | 4-4½x5½-32.4 | 2 | cent | own | est | Bush | fin | sing | Bosch | hand | lghtg | Eismn | 140 |
| Larrabee | W | 5 | 5,100 | .... | Savg | p-stl | s-flex | sol | 36x6 | 40x6d | Sth | mt | Cont | 4-4½x6 -36.1 | 2 | cent | own | est | Bush | fin | sing | Bosch | hand | sl&i-2 | Dneto | ..... |
| Lion | L | ½ | 2,200 | 132 | Prsh | p-stl | ..... | pnu | 35x5 | 35x5 | ..... | wd | Buda | 4-3½x5½-22 5 | 4 | ther | G&O | prs | ..... | sq-t | sing | Eismn | hand | ..... | ..... | ..... |
| Lone Star | 9 | 1½ | 1,595 | 134½ | own | rol-c | s-flex | pnu | 32x3½ | 32x4 | ..... | wd | Gray | 4-3½x5 -19.6 | 4 | ther | own | ..... | own | fin | sing | Delco | hand | s&l | ..... | none |
| L.M.C. | 2-20 | 2½ | 2,540 | 164 | own | rol-c | s-flex | sol | 36x4 | 36x4d | Bim | wd | Cont | 4-4½x5½-27.2 | 4 | cent | Lng | est | Lng | fin | sing | Bosch | hand | none | ..... | ..... |
| Luverne | F | 1½ | 2,750 | 140 | ..... | rol-c | ..... | ..... | 36x6 | 38x7 | ..... | ..... | H-S | 4-3½x5 -16.9 | ..... | ..... | ..... | est | ..... | ..... | sing | Bosch | ..... | s&l | Dneto | ..... |
| Luedinghaus | K | 2 | 2,790 | 145 | P&B | p-stl | s-flex | sol* | 36x4 | 36x7 | Bim* | wd | Wau | 4-4½x5½-29.0 | 2 | cent | own | est | Brem | fin | sing | Splf | hand | none | ..... | ..... |
| MacDonald | A | 15 | 5,750 | opt | ..... | rol-c | rigid | opt | 40x7 | 40x14 | Sth | mt | Buda | 4-4½x6 -32.4 | 4 | cent | own | est | Mod | zz-t | sing | Splf | hand | none | ..... | ..... |
| Mack | AB | 1½ | 3,450 | 162 | own | p-stl | flex | sol | 36x4 | 36x3½ | Sch | wd | own | 4-4 x5 -25.6 | 2 | cent | own | sht | own | cel | sing | Splf | hand | s&l-2 | L-N | 250 |
| Mack | AB | 1½ | 3,000 | 162 | own | p-stl | flex | sol | 36x4 | 36x3½d | Sch | wd | own | 4-4 x5 -25.6 | 2 | cent | own | sht | own | cel | sing | Splf | hand | s&l-2 | L-N | 250 |
| Mack | AB | 2 | 3,300 | 162 | own | p-stl | flex | sol | 36x4 | 36x4d | Sch | wd | own | 4-4 x5 -25.6 | 2 | cent | own | sht | own | cel | sing | Splf | hand | s&l-2 | L-N | 250 |
| Mack | AB | 2 | 3,750 | 162 | own | p-stl | flex | sol | 36x4 | 36x4d | Sch | wd | own | 4-4 x5 -25.6 | 2 | cent | own | sht | own | cel | sing | Splf | hand | s&l-2 | L-N | 250 |
| Mack | AC | 3½ | 4,950 | 168 | own | p-stl | flex | sol | 36x5 | 40x5d | Sch | wd | own | 4-5 x6 -40.0 | 2 | cent | own | sht | own | ring | sing | Splf | hand | s&l-2 | L-N | 250 |
| Mack Tractor | AB | 5 | 3,400 | 120 | own | p-stl | flex | sol | 36x4 | 36x4d | Sch | wd | own | 4-4 x5 -25.6 | 2 | cent | own | sht | own | cel | sing | Splf | hand | s&l-2 | L-N | 250 |
| Mack | AC | 5 | 5,500 | 168 | own | p-stl | flex | sol | 36x6 | 40x6d | Sch | wd | own | 4-5 x6 -40.0 | 2 | cent | own | est | own | ring | sing | Splf | hand | s&l-2 | L-N | 250 |
| Mack | AC | 6½ | 5,750 | 168 | own | p-stl | flex | sol | 36x6 | 40x12 | Sch | wd | own | 4-5 x6 -40.0 | 2 | cent | own | est | own | ring | sing | Splf | hand | s&l-2 | L-N | 250 |
| Mack Tractor | AC | 7 | 4,950 | 119 | own | p-stl | flex | sol | 36x5 | 40x5d | Sch | wd | own | 4-5 x6 -40.0 | 2 | cent | own | est | own | ring | sing | Splf | hand | s&l-2 | L-N | 250 |
| Mack | AC | 7½ | 6,000 | 168 | own | p-stl | flex | sol | 36x7 | 40x7d | Sch | wd | own | 4-5 x6 -40.0 | 2 | cent | own | est | own | ring | sing | Splf | hand | s&l-2 | L-N | 250 |
| Mack Tractor | AC | 10 | 5,500 | 119 | own | p-stl | flex | sol | 36x6 | 40x6d | Sch | wd | own | 4-5 x6 -40.0 | 2 | cent | own | est | own | ring | sing | Splf | hand | s&l-2 | L-N | 250 |
| Mack Tractor | AC | 13 | 5,750 | 119 | own | p-stl | flex | sol | 36x6 | 40x12 | Sch | wd | own | 4-5 x6 -40.0 | 2 | cent | own | est | own | ring | sing | Splf | hand | s&l-2 | L-N | 250 |

**ABBREVIATIONS—Types of Construction**

*—other options
**amid**—amidships
**auto**—automatic
**bevl**—bevel
**cel**—cellular
**cent**—centrifugal
**chn**—chain
**cst**—cast
**ctr**—center
**cylinders cast,** 2 in pairs
**cylinders cast,** 4 in block
**cylinders cast,** 3 in threes
**cylinders cast,** 1 singly
**cyl-ends**—cylinder-ends
**d**—dual
**d-d**—dry-disk
**d-p**—dry-plate
**dplz**—from both motor & driveshaft
**d-rd**—double reduction
**d-s**—drive-shaft
**elec**—electric
**ext-d-s**—external drive-shaft
**ext-f-w**—external front wheel
**ext-g**—external gear
**ext-jst**—external jack-shaft
**ext-r-w**—external rear wheel
**fab**—fabric
**fin**—finned tube
**flex**—flexible
**f-m**—fabric & metal
**fric**—friction
**g-p**—gear pump
**grv**—gravity
**gset**—from gearset
**hyd**—hydraulic
**ind-c**—individual clutch
**int-g**—internal gear
**int-g-4**—internal gear drive on 4 wheels
**int-r-w**—internal rear wheel
**jst**—unit with jackshaft
**l**—left
**l-b**—loose ball
**lghtg**—lighting only
**mtr**—unit with motor
**mt**—metal (wheels)
**mtl**—metal (universal joint)
**opt**—optional
**pist**—piston pump
**plan**—planetary
**pin**—plain tube
**pnu**—pneumatic
**pres**—pressure
**prog**—progressive
**prs**—pressed steel
**p&s**—pneumatics in front solids in rear
**p-stl**—pressed steel
**r**—right
**r&c**—right & center
**r-rd**—radius rods
**rol-c**—rolled channel
**rol-l**—rolled I-beam
**selec**—selective
**s-flex**—semi-flexible
**s-fr**—sub-frame
**sht**—sheet
**s&l**—starting & lighting
**sl&i-2**—starting, lighting & ignition, 2 unit
**sol**—solid
**sprgs**—springs
**sq-t**—square tube
**start**—starting only
**suct**—suction
**t-arm**—torque arm
**ther**—thermo-syphon
**t-p**—two-point
**t-t**—torsion tube
**vac**—vacuum
**wat-tube**—water tube
**wd**—wood
**w-d**—multiple disk in oil
**w-p**—plate in oil
**wr**—wire
**zz-t**—zig-zag tube

**ABBREVIATIONS—Makers of Parts.**

*Other Options
**A-Knt**—Atwater-Kent
**Al-Ch**—Allis-Chalmers
**Amer**—American Magneto Co.
**Arch**—Archibald
**Aut-L**—Auto-Lite
**Auto**—Auto Wheel Co.
**B-Beck**—Borg & Beck
**BCA**—Bearings Co. of Am.
**Berlg**—Berling
**Bim**—Bimel
**Bl&Fl**—Blood & Flexite
**B-Lipe**—Brown-Lipe
**Blood**—Blood Bros.
**Bl&P**—Blood & Peters
**Bl&Sp**—Blood & Spicer
**B-M**—Bucyrus Mach. Tool
**Brem**—Bremer
**Cart**—Carter carburetor
**Cas**—G. M. Castle
**CAS**—C. A. S. products
**C-D**—Curran-Detroit Radiator Co.
**Chgo**—Chicago Mfg. Co.
**Chic**—Chicago Standard
**Chmp**—Champion Auto Spring Co.
**Clrk**—Clark Equip. Co.
**Coen**—Corcoran Radiator Co.
**Col**—Columbia Axle Co.
**Cont**—Continental motor
**Conn**—Connecticut
**Crn**—Crane & MacMahon
**Crn-S**—Crane & MacMahon and Standard
**Day**—Dayton wheel
**Detlaf**—Detlaff
**Det**—Detroit Wheel & Rim
**Detrt**—Detroit G. & M.
**Ditl**—Disteel Wheel Co.
**Ditw**—Ditwiler Mfg. Co.
**Dnet**—Dyneto

# Gasoline Motor Trucks for 1921—Cont.

| ENGINE | | | | | | | | | TRANSMISSION | | | | | | | | | Springs Make | BRAKES | | CONTROL | | | UNIVERSALS | | Name and Model |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GOVERNOR | | | SPEED | | FUEL SYS. | | CLUTCH | | GEARSET | | | | FINAL DRIVE | | Total Gear Reduction | Propulsion Taken By | Torque Taken By | | Foot | Hand | STEER'G GEAR | | | | | |
| Type | Make | Drive | Motor in r.p.m. | Truck in m.p.h. | Carburetor Make | Fuel Feed | Type | Make | Type | Make | Placed | Speeds | Type | Rear Axle Make | | | | | | | Placed | Make | Levers | Type | Make | |
| cent.. | own.... | motor. | 1125 | 12 | Ens.... | grv.. | d-d... | B-Lipe. | selec.. | B-Lipe. | amid.. | 4 | int-g. | own.. | 10.90 | sprgs.. | sprgs.. | Stand. | int-r-w. | int-r-w. | l.... | own... | ctr.. | mtl | own.... | International.....L |
| cent.. | Pierce.. | motor. | 1027 | 12 | Stmbg.. | vac.. | d-p... | B-Beck. | selec.. | own.... | amid.. | 4 | bevl... | own.. | 9.17 | sprgs.. | sprgs.. | S-P... | int-r-w. | ext-d-s. | l.... | Ross.. | ctr.. | mtl | Spicer.. | Jackson.....4WD |
| none. | ..... | ..... | 1500 | 22 | Zenith.. | grv.. | d-d... | Fuller.. | selec.. | Fuller.. | mtr... | 3 | int-g.. | Clrk.. | 7.20 | sprgs.. | sprgs.. | S-P... | ext-r-w. | int-r-w. | l.... | Jacox. | ctr.. | mtl | Arvac.. | Jumbo.....15 |
| none. | ..... | ..... | 1500 | 22 | Zenith.. | grv.. | d-d... | Fuller.. | selec.. | Fuller.. | mtr... | 3 | int-g.. | Clrk.. | 7.60 | sprgs.. | sprgs.. | S-P... | ext-r-w. | int-r-w. | l.... | Jacox. | ctr.. | mtl | Arvac.. | Jumbo.....20 |
| cent.. | Dplx... | Dplx.. | 1250 | 15 | Zenith.. | vac.. | d-d... | Fuller.. | selec.. | Fuller.. | mtr... | 4 | int-g.. | Clrk.. | 9.00 | sprgs.. | sprgs.. | S-P... | ext-r-w. | int-r-w. | l.... | Jacox. | ctr.. | mtl | Arvac.. | Jumbo.....25 |
| cent.. | Dplx... | Dplx.. | 1250 | 15 | Zenith.. | vac.. | d-d... | Fuller.. | selec.. | Fuller.. | mtr... | 4 | int-g.. | Clrk.. | 9.00 | sprgs.. | sprgs.. | S-P... | ext-r-w. | int-r-w. | l.... | Jacox. | ctr.. | mtl | Arvac.. | Jumbo.....30 |
| cent.. | Simp... | motor. | 1000 | 12 | Zenith.. | grv.. | d-d... | B-Lipe. | selec.. | B-Lipe. | mtr... | 4 | int-g.. | Clrk.. | 9.00 | sprgs.. | sprgs.. | S-P... | ext-r-w. | int-r-w. | l.... | Jacox. | ctr.. | mtl | Spicer.. | Jumbo.....35 |
| cent.. | Simp... | motor. | 1000 | 12 | Zenith.. | grv.. | d-d... | B-Lipe. | selec.. | B-Lipe. | mtr... | 4 | int-g.. | Clrk.. | 10.00 | sprgs.. | sprgs.. | S-P... | ext-r-w. | int-r-w. | l.... | Jacox. | ctr.. | mtl | Spicer.. | Jumbo.....40 |
| suct.. | Mnrch. | motor. | 1400 | 16 | Zenith.. | grv.. | d-d... | M&E.. | selec.. | cotta... | mtr... | 4 | int-g.. | Russl. | 8.80 | sprgs.. | sprgs.. | Math. | ext-r-w. | int-r-w. | l.... | Lavn.. | ctr.. | mtl | Unval.. | J. & J.....D |
| cent.. | Pierce.. | motor. | 1500 | 16 | Stmbg.. | vac.. | d-d... | Fuller.. | selec.. | Fuller.. | amid.. | 4 | worm. | Wis.. | 8.50 | r-rd.. | ..... | Shel.. | int.... | int-r-w. | l.... | Ross.. | ctr.. | mtl | Acme*. | Kalamazoo.....G2 |
| cent.. | Pierce.. | motor. | 1100 | 13 | Stmbg.. | vac.. | d-d... | Fuller.. | selec.. | Fuller.. | amid.. | 4 | worm. | Shel.. | 8.75 | r-rd.. | ..... | Shel.. | int-r-w. | int-r-w. | l.... | Ross.. | ctr.. | mtl | Acme*. | Kalamazoo.....H2 |
| cent.. | ..... | motor. | 1100 | 11 | Stmbg.. | vac.. | d-d... | Fuller.. | selec.. | Fuller.. | amid.. | 4 | worm. | Shel.. | 10.00 | r-rd.. | ..... | Shel.. | int-r-w. | int-r-w. | l.... | Ross.. | ctr.. | mtl | Acme*. | Kalamazoo.....K2 |
| cent.. | Dplx... | Dplx.. | 1100 | 15 2 | Zenith.. | grv.. | d-d... | B-Lipe. | selec.. | B-Lipe. | amid.. | 4 | worm. | Shel.. | 7.75 | sprgs.. | sprgs.. | Shel.. | int-r-w. | int-r-w. | l.... | Ross.. | ctr.. | mtl | Spicer.. | Karavan.....A |
| suct.. | Mnrch. | motor. | 1500 | 25 | Zenith.. | grv.. | d-p... | B-Beck. | selec.. | G-Lees. | mtr... | 3 | int-g.. | Torbn. | 12.00 | sprgs.. | sprgs.. | Math. | int-r-w. | ext-r-w. | l.... | Lavn.. | ctr.. | mtl | M&E.. | Kearns.....H |
| cent.. | Pierce.. | motor. | 1400 | 18 | Zenith.. | grv.. | d-p... | B-Beck. | selec.. | G-Lees. | mtr... | 3 | int-g.. | Torbn. | 8.00 | sprgs.. | sprgs.. | Math. | int-r-w. | ext-r-w. | l.... | Lavn.. | ctr.. | mtl | M&E.. | Kearns.....N |
| cent.. | Pierce.. | motor. | 1300 | 17 | Zenith.. | grv.. | d-p... | B-Beck. | selec.. | Covert. | amid.. | 3 | worm. | Shel.. | 8.66 | r-rd.. | sprgs.. | S-P... | int-r-w. | int-r-w. | l.... | Gem.. | ctr.. | f-m | Bl&Sp. | Kelly-Springfield..K34 |
| cent.. | Pierce.. | motor. | 1300 | 14 | Zenith.. | grv.. | cone.. | own.... | selec.. | Covert. | amid.. | 3 | worm. | Shel.. | 10.30 | r-rd.. | sprgs.. | S-P... | int-r-w. | int-r-w. | l.... | Gem.. | ctr.. | mtl | Spicer.. | Kelly-Springfield..K36 |
| cent.. | Pierce.. | motor. | 1300 | 14 | Zenith.. | grv.. | cone.. | own.... | selec.. | Covert. | amid.. | 3 | chn... | own.. | 10.49 | r-rd.. | ..... | S-P... | int-r-w. | int-r-w. | l.... | Gem.. | ctr.. | mtl | own.... | Kelly-Springfield..K40 |
| cent.. | Pierce.. | motor. | 1300 | 15 | Zenith.. | grv.. | d-p... | B-Beck. | selec.. | Covert. | amid.. | 4 | worm. | S-P... | 10.25 | r-rd.. | sprgs.. | S-P... | int-r-w. | int-r-w. | l.... | Gem.. | ctr.. | f-m | Bl&P.. | Kelly-Springfield..K42 |
| cent.. | Pierce.. | motor. | 1300 | 15 | Zenith.. | grv.. | d-p... | B-Beck. | selec.. | Covert. | amid.. | 4 | int-g.. | Clrk.. | 10.00 | r-rd.. | sprgs.. | S-P... | ext-r-w. | int-r-w. | l.... | Gem.. | ctr.. | f-m | Bl&P.. | Kelly-Springfield..K41 |
| cent.. | Pierce.. | motor. | 1300 | 14 | Zenith.. | grv.. | cone.. | own.... | selec.. | Covert. | amid.. | 3 | chn... | own.. | 10.71 | r-rd.. | ..... | S-P... | int-r-w. | int-r-w. | l.... | Gem.. | ctr.. | mtl | own.... | Kelly-Springfield..K45 |
| cent.. | Pierce.. | motor. | 1300 | 12 | Zenith.. | grv.. | cone.. | own.... | selec.. | Covert. | amid.. | 3 | chn... | own.. | 12.24 | r-rd.. | ..... | S-P... | int-r-w. | int-r-w. | l.... | Gem.. | ctr.. | mtl | own.... | Kelly-Springfield..K50 |
| cent.. | Pierce.. | motor. | 1300 | 12 | Zenith.. | grv.. | cone.. | own.... | selec.. | Covert. | amid.. | 3 | chn... | own.. | 12.39 | r-rd.. | ..... | S-P... | int-r-w. | int-r-w. | l.... | Gem.. | ctr.. | mtl | own.... | Kelly-Springfield..K60 |
| cent.. | Pierce.. | motor. | 1350 | 17 | Zenith.. | grv.. | d-d... | Fuller.. | selec.. | Fuller.. | mtr... | 3 | int-g.. | Russl. | 8.90 | sprgs.. | sprgs.. | Rowl.. | ext-r-w. | int-r-w. | l.... | Ross.. | ctr.. | mtl | Spicer.. | Keystone.....40 |
| suct.. | moen.. | motor. | 1200 | 14 | Stmbg.. | grv.. | d-d... | B-Lipe. | selec.. | B-Lipe. | amid.. | 4 | worm. | Timkn | 9.25 | r-rd.. | sprgs.. | Tuth.. | int-r-w. | int-r-w. | l.... | Lavn.. | ctr.. | fab | Therm. | K-Z..... |
| suct.. | moen.. | motor. | 1300 | 12 | Stmbg.. | grv.. | d-d... | B-Lipe. | selec.. | B-Lipe. | amid.. | 4 | worm. | Timkn | 10.33 | r-rd.. | sprgs.. | Tuth.. | int-r-w. | int-r-w. | l.... | Lavn.. | ctr.. | fab | Therm. | K-Z..... |
| cent.. | Pierce.. | motor. | 1237 | 17 | Stmbg.. | vac.. | d-d... | Warn.. | selec.. | Warn.. | mtr... | 3 | worm. | Shel.. | 7.80 | sprgs.. | sprgs.. | Math. | int-r-w. | int-r-w. | l.... | Jacox. | ctr.. | mtl | Spicer.. | Kissel.....GU |
| cent.. | Pierce.. | motor. | 1290 | 15 | Stmbg.. | vac.. | d-d... | Warn.. | selec.. | Warn.. | amid.. | 4 | worm. | Timkn | 8.50 | sprgs.. | sprgs.. | Math. | int-r-w. | int-r-w. | l.... | Ross.. | ctr.. | mtl | Spicer.. | Kissel.....F |
| cent.. | Pierce.. | motor. | 1315 | 12 | Stmbg.. | vac.. | d-d... | Warn.. | selec.. | Warn.. | amid.. | 4 | worm. | Shel.. | 11.75 | sprgs.. | sprgs.. | Shel.. | int-r-w. | int-r-w. | l.... | Ross.. | ctr.. | mtl | Spicer.. | Kissel.....HD |
| cent.. | Pierce.. | motor. | ..... | ..... | Stmbg.. | grv.. | d-d... | B-Lipe. | selec.. | B-Lipe. | mtr... | 3 | worm. | Timkn | ..... | sprgs.. | sprgs.. | own.. | int-r-w. | int-r-w. | r.... | Ross.. | ctr.. | mtl | Spicer.. | Kleiber.....AA |
| cent.. | Pierce.. | motor. | ..... | ..... | Stmbg.. | grv.. | d-d... | B-Lipe. | selec.. | B-Lipe. | mtr... | 3 | worm. | Timkn | ..... | sprgs.. | sprgs.. | own.. | int-r-w. | int-r-w. | r.... | Ross.. | ctr.. | mtl | Spicer.. | Kleiber.....A |
| cent.. | Pierce.. | motor. | ..... | ..... | Stmbg.. | grv.. | w-d... | M&E.. | selec.. | B-Lipe. | amid.. | 4 | worm. | Timkn | ..... | sprgs.. | sprgs.. | own.. | int-r-w. | int-r-w. | r.... | Ross.. | ctr.. | mtl | Spicer.. | Kleiber.....BB |
| cent.. | Pierce.. | motor. | ..... | ..... | Stmbg.. | grv.. | d-d... | B-Lipe. | selec.. | B-Lipe. | amid.. | 4 | worm. | Timkn | ..... | sprgs.. | sprgs.. | own.. | int-f-w. | int-r-w. | l.... | Ross.. | ctr.. | mtl | Spicer.. | Kleiber.....B |
| cent.. | Dplx... | motor. | ..... | ..... | Stmbg.. | grv.. | d-d... | B-Lipe. | selec.. | B-Lipe. | amid.. | 4 | worm. | Timkn | ..... | r-rd.. | sprgs.. | own.. | int-r-w. | int-r-w. | l.... | Ross.. | ctr.. | mtl | Spicer.. | Kleiber.....C |
| cent.. | Dplx... | motor. | ..... | ..... | Stmbg.. | grv.. | d-d... | B-Lipe. | selec.. | B-Lipe. | amid.. | 4 | worm. | Timkn | ..... | r-rd.. | sprgs.. | own.. | int-r-w. | int-r-w. | l.... | Ross.. | ctr.. | mtl | Spicer.. | Kleiber.....D |
| cent.. | Dplx... | motor. | 1200 | 18 | Zenith.. | grv.. | d-d... | Mech.. | selec.. | Mech.. | mtr... | 3 | int-g.. | Torbn. | 7.00 | sprgs.. | sprgs.. | Math. | ext-r-w. | int-r-w. | l.... | own.. | ctr.. | mtl | K&B.. | Koehler.....C |
| cent.. | Dplx... | motor. | 1200 | 14 | Zenith.. | grv.. | d-d... | B-Lipe. | selec.. | B-Lipe. | amid.. | 4 | worm. | Timkn | 9.25 | sprgs.. | sprgs.. | Math. | int-r-w. | int-r-w. | l.... | Lavn.. | ctr.. | mtl | Spicer.. | Koehler.....M |
| cent.. | Simp.... | motor. | 1200 | 14 | Zenith.. | grv.. | d-d... | B-Lipe. | selec.. | B-Lipe. | amid.. | 4 | worm. | Timkn | 9.25 | sprgs.. | sprgs.. | Math. | int-r-w. | int-r-w. | l.... | Lavn.. | ctr.. | mtl | Spicer.. | Koehler.....MT |
| cent.. | Pierce.. | motor. | 1250 | 17 | Stmbg.. | grv.. | d-d... | M&E.. | selec.. | own.... | ..... | 3 | chn... | own.. | 9.22 | r-rd.. | t-t.. | Iron.. | ext-j-s. | int-r-w. | l.... | Gem.. | ctr.. | mtl | M&E.. | Lange.....B |
| cent.. | Simp.... | motor. | 1360 | 18 | Schblr.. | grv.. | d-d... | B-Lipe. | selec.. | B-Lipe. | mtr... | 3 | worm. | Shel.. | 7.80 | sprgs.. | sprgs.. | Merl.. | int-r-w. | int-r-w. | l.... | Ross.. | ctr.. | mtl | Unval.. | Larrabee.....U |
| cent.. | Simp.... | motor. | 1225 | 15 | Schblr.. | grv.. | d-d... | B-Lipe. | selec.. | B-Lipe. | amid.. | 4 | worm. | Shel.. | 8.75 | sprgs.. | sprgs.. | Merl.. | int-r-w. | int-r-w. | l.... | Ross.. | ctr.. | f-m | Sn&Sp. | Larrabee.....K |
| cent.. | Simp.... | motor. | 1200 | 12 | Schblr.. | grv.. | d-d... | B-Lipe. | selec.. | B-Lipe. | amid.. | 4 | worm. | Shel.. | 10.33 | sprgs.. | sprgs.. | Merl.. | int-r-w. | int-r-w. | l.... | Ross.. | ctr.. | f-m | Sn&Sp. | Larrabee.....L |
| cent.. | Cont.... | motor. | 1150* | 10 | Schblr.. | grv.. | d-d... | B-Lipe. | selec.. | B-Lipe. | amid.. | 4 | worm. | Shel.. | 10.25 | sprgs.. | sprgs.. | Merl.. | int-r-w. | int-r-w. | l.... | Ross.. | ctr.. | f-m | Sn&Sp. | Larrabee.....W |
| suct.. | Mnrch. | ..... | 1500 | 30 | Zenith.. | vac.. | d-d... | Fuller.. | selec.. | Fuller.. | mtr... | 3 | worm. | Timkn | ..... | sprgs.. | sprgs.. | Shel.. | ..... | int-r-w. | l.... | Ross.. | ctr.. | mtl | ..... | Lion.....L |
| none. | ..... | ..... | 1000 | 15 | Stmbg.. | vac.. | d-p... | B-Beck. | ..... | Fuller.. | mtr... | 3 | int-g.. | Peru.. | 6.00 | sprgs.. | ..... | Drt.... | ..... | ext-r-w. | l.... | Ditw.. | ctr.. | fab | Therm. | Lone Star.....9 |
| cent.. | Pierce.. | motor. | 1150 | 14 | Stmbg.. | vac.. | d-p... | B-Beck. | selec.. | Detrt.. | amid.. | 4 | int-g.. | Russl. | 8.80 | sprgs.. | sprgs.. | Math. | ext-r-w. | int-r-w. | l.... | Lavn.. | ctr.. | f-m | Th&Ba. | L.M.C.....2-20 |
| ..... | ..... | ..... | ..... | ..... | Zenith.. | ..... | ..... | B-Beck. | ..... | Detrt.. | mtr... | ..... | ..... | Torbn. | ..... | ..... | ..... | ..... | ..... | ..... | ..... | Lavn.. | ..... | ..... | ..... | Luverne.....E |
| cent.. | ..... | motor | 1239 | 16 | Schblr.. | grv.. | d-p... | B-Beck. | selec.. | Detrt.. | mtr... | 3 | worm. | Wsc.. | 8.66 | r-rd.. | sprgs.. | Tuth.. | int-r-w. | int-r-w. | l.... | Lavn.. | ctr.. | mtl | Spicer.. | Luedinghaus.....K |
| cent.. | ..... | motor | 1200 | 9 | Stmbg.. | grv.. | d-d... | B-Lipe. | selec.. | B-Lipe. | mtr... | 4 | int-g. | own.. | 17.50 | sprgs.. | sprgs.. | Morg. | ext-f-w. | ext-d-s. | l.... | own.. | ctr.. | mtl | own.... | MacDonald.....A |
| cent.. | own.... | motor. | 1160 | 17 | Schblr.. | grv.. | d-d... | own.... | selec.. | own.... | mtr... | 4 | d-rd.. | own.. | 7.60 | sprgs.. | sprgs.. | Math* | int-r-w | ext-d-s. | l.... | own.. | ctr.. | mtl | Spicer.. | Mack.....AB |
| cent.. | own.... | motor. | 1160 | 19 | Schblr.. | grv.. | d-d... | own.... | selec.. | own.... | mtr... | 4 | chn... | own.. | 6.99 | r-rd.. | none. | Math* | ext-d-s. | int-r-w. | l.... | own.. | ctr.. | mtl | Spicer.. | Mack.....AB |
| cent.. | own.... | motor. | 1160 | 19 | Schblr.. | grv.. | d-d... | own.... | selec.. | own.... | mtr... | 4 | chn... | own.. | 6.99 | r-rd.. | none. | Math* | ext-d-s. | int-r-w. | l.... | own.. | ctr.. | mtl | Spicer.. | Mack.....AB |
| cent.. | own.... | motor. | 1160 | 17 | Schblr.. | grv.. | d-d... | own.... | selec.. | own.... | mtr... | 4 | d-rd.. | own.. | 7.60 | sprgs.. | sprgs.. | Math* | int-r-w | ext-d-s. | l.... | own.. | ctr.. | mtl | Spicer.. | Mack.....AB |
| cent.. | own.... | motor. | 1000 | 14 | Schblr.. | grv.. | d-p... | own.... | selec.. | own.... | jst.... | 3 | chn... | own.. | 8.49 | r-rd.. | ..... | Math* | ext-j-s. | int-r-w. | l.... | own.. | ctr.. | mtl | Spicer.. | Mack.....AC |
| cent.. | own.... | motor. | 1160 | 12 | Schblr.. | grv.. | d-d... | own.... | selec.. | own.... | mtr... | 4 | chn... | own.. | 10.53 | r-rd.. | ..... | Math* | ext-d-s. | int-r-w. | l.... | own.. | ctr.. | mtl | Spicer.. | Mack Tractor.....AB |
| cent.. | own.... | motor. | 1000 | 13 | Schblr.. | grv.. | d-p... | own.... | selec.. | own.... | jst.... | 3 | chn... | own.. | 9.00 | r-rd.. | ..... | Math* | ext-j-s. | int-r-w. | l.... | own.. | ctr.. | mtl | Spicer.. | Mack.....AC |
| cent.. | own.... | motor. | 1000 | 10 | Schblr.. | grv.. | d-p... | own.... | selec.. | own.... | jst.... | 3 | chn... | own.. | 10.50 | r-rd.. | ..... | Math* | ext-j-s. | int-r-w. | l.... | own.. | ctr.. | mtl | Spicer.. | Mack.....AC |
| cent.. | own.... | motor. | 1000 | 11 | Schblr.. | grv.. | d-p... | own.... | selec.. | own.... | jst.... | 3 | chn... | own.. | 10.76 | r-rd.. | ..... | Math* | ext-j-s. | int-r-w. | l.... | own.. | ctr.. | mtl | Spicer.. | Mack Tractor.....AC |
| cent.. | own.... | motor. | 1000 | 10 | Schblr.. | grv.. | d-p... | own.... | selec.. | own.... | jst.... | 3 | chn... | own.. | 11.58 | r-rd.. | ..... | Math* | ext-j-s. | int-r-w. | l.... | own.. | ctr.. | mtl | Spicer.. | Mack.....AC |
| cent.. | own.... | motor. | 1000 | 10 | Schblr.. | grv.. | d-p... | own.... | selec.. | own.... | jst.... | 3 | chn... | own.. | 11.58 | r-rd.. | ..... | Math* | ext-j-s. | int-r-w. | l.... | own.. | ctr.. | mtl | Spicer.. | Mack.....AC |
| cent.. | own.... | motor. | 1000 | 9 | Schblr.. | grv.. | d-p... | own.... | selec.. | own.... | jst.... | 3 | chn... | own.. | 12.92 | r-rd.. | ..... | Math* | ext-j-s. | int-r-w. | l.... | own.. | ctr.. | mtl | Spicer.. | Mack.....AC |

**ABBREVIATIONS—Makers of Parts—(Con)—**

**Dplx**—Duplex governor
**Drt**—Detroit Pressed Steel Co.
**Dtr**—Detroit Products
**Dtrt**—Detroit lubricator
**Dun**—Dunbar Mfg. Co.
**Dund**—Dundore Mfg. Co.
**Dunk**—Dunkirk Axle Corp.
**Dur**—Durston Gear Corp.
**Elyr**—Elyria Steel Products Co.
**E&M**—English & Mersick
**E&O**—Eberly & Orris
**Eisman**—Eisemann
**Ens**—Ensign carburetor
**Erie**—Ericsson Mfg. Co.
**Eurk**—Eureka
**Fed**—Fedders
**GB&S**—Golden, Belknap & Schwartz
**G&D**—Gray & Davis
**G&O**—G & O Mfg. Co.
**GCS**—Garden City springs
**Gem**—Gemmer
**G-Lees**—Grant-Lees
**Godn**—Gordan Radiator Co.
**Har**—Harrison
**Hart**—Hartford
**Harv**—Harvey
**Hay**—Hayes Wheel Co.
**H&D**—Hoopes Bros. & Darlington
**H&K**—Hale & Kilburn
**Her**—Hercules
**Hghy**—Highway Engine Co.
**Hink**—Hinkley
**H-Shaw**—Hele-Shaw
**H-S**—Herschell-Spillman
**Hyd**—Hydraulic
**Idl**—Ideal
**Int**—Interstate
**Iron**—Iron City
**Jacox**—Jackson-Church-Wilcox
**Jck**—Jackson Auto Rad.
**Jmst**—Jamestown Car Parts
**Jns**—Phineas Jones & Co.
**John**—Johnson Co.
**K&B**—Kinsler & Bennet
**Kel**—Kelsey Wheel Co.
**Kug**—Kueng Radiator Co.
**K.W.**—K.W. Ignition Co.
**Laur**—Lauraine Magneto
**Lavn**—Lavine
**LeR**—Le Roi engine
**Lght**—Light Mfg. Co.
**Liggt**—Liggett Spring & Axle Co.
**L-N**—Leece-Neville Co.
**Lng**—Long
**Lvgn**—Livingston
**Lyc**—Lycoming
**Marm**—Maremont Mfg. Co.
**McCn**—McCanna
**M&E**—Merchant & Evans
**McC**—McCord
**Mech**—Mechanics Machine
**Merl**—Merrill Spring Co.
**Mnrch**—Monarch
**Mod**—Modine Mfg. Co.
**Morg**—Morgan Mfg. Co.
**Math**—Mather
**Munc**—Muncie
**MWC**—Motor Wheel Corp.
**Natl**—National Can Co.
**Natn**—National Axle Co.
**N-E**—North East
**Own&Sp**—Own & Spicer
**P&B**—Parish & Bingham
**Pfx**—Perfex radiator
**Pgh**—Pittsburgh Pressed Steel
**Phro**—Pharo Mfg. Co.
**Pitt**—Pittsburgh Model Engine Co.
**Prsh**—Parish Mfg. Co.
**Prud**—Prudden
**Rayfld**—Rayfield
**Rowl**—Wm. H. Rowland
**Roy**—Royer Wheel Co.
**R-T**—Rome-Turney
**Russl**—Russel Axle Co.
**Sag**—Saginaw
**Sal**—Salisbury
**Savg**—Savage Arms
**Sch**—Schwarz Wheel Co.
**Schblr**—Schebler
**Shar**—Sharon Pressed Steel Co.
**Shel**—Sheldon
**Sim**—Simms Magneto Co.
**Simp**—Simplex
**S-K**—Slick Knox Steel Co.
**Smh**—A. O. Smith
**Sn & Ac**—Snead & Acme
**Sn&Sp**—Snead & Spicer
**S-P**—Standard Parts Co.
**Sp&Fl**—Spicer & Flexite
**Splf**—Splitdorf
**Sp-P**—Spring Perch Co.
**Sp&Pet**—Spicer & Peters
**Stan**—Standard radiator
**Stand**—Standard Steel Spring Co.
**Sterl**—Sterling bearings
**Stmbg**—Stromberg
**Stn**—Standard Wheel Co.
**Sth**—Smith steel wheel
**S-W**—Sparks-Withington
**Th&Ba**—Thermoid & Baker
**Th&Bl**—Thermoid & Blood
**Therm**—Thermoid
**Th—Sp**—Thermoid & Spicer
**Till**—Tillotson
**Timkn**—Timken
**Torbn**—Torbensen
**Trav**—Traverse City Iron Works
**T-S**—Turner-Seymour
**Tuth**—Tuthill
**Unv**—Universal
**Unvsl**—Universal Mach.
**U.P.**—U. P. Products Co.
**U.S.**—U. S. Spring Co.
**Wab**—Wabash Radiator Co.
**Warn**—Warner
**Wau**—Waukesha
**Way**—Wayne Wheel Co.
**Wed**—Weldley
**West**—Westinghouse
**We-W**—Western Wheel Co.
**Wis**—Wisconsin Parts
**Wol**—Wohlrab
**W-S**—West Steel Castings Co.
**Wsc**—Wisconsin engine
**Yng**—Youngstown Pressed Steel Co.

# Complete Mechanical Specifications of

| Name and Model | Tons Capacity | Chassis Price | Wheelbase, Inches | FRAME: Make | FRAME: Material | FRAME: Type | TIRES: Kind | TIRES: Size in Ins. Front | TIRES: Size in Ins. Rear | WHEELS: Make | WHEELS: Type | ENGINE: Make | ENGINE: No. Cyl. Bore and Stroke—N.A.C.C. Hp. | ENGINE: Cylinders Cast | COOLING: Water Circ. | COOLING: RADIATOR: CASE: Make | COOLING: RADIATOR: CASE: Type | COOLING: RADIATOR: CORE: Make | COOLING: RADIATOR: CORE: Type | IGNITION: Type | IGNITION: Make | IGNITION: Spark Advance | ELEC. SYSTEM: Type | ELEC. SYSTEM: Make | Extra Cost $ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mack Tractor AC | 15 | 6,000 | 119 | own | p-stl | flex | sol | 36x7 | 40x7d | Sch | wd | own | 4-[illegible] x6 -40.0 | 2 | cent | own | cst | own | ring | sing | Spltf | hand | s&l-2 | L-N | 250 |
| Maccar L2 | 1½ | 2,925 | 150 | Prsh | p-stl | s-flex | sol | 36x4 | 36x6 | Day | mt | Cont | 4-4½x5½-27.2 | 4 | cent | own | cst | Bush | fin | sing | Eismn | hand | none | | |
| Maccar H2 | 2½ | 3,650 | 162 | Prsh | p-stl | s-flex | sol | 36x4 | 36x4d | Day | mt | Cont | 4-4½x5½-32.4 | 2 | cent | own | cst | Bush | fin | sing | Eismn | hand | none | | |
| Maccar M2 | 3½ | 4,500 | 174 | Prsh | p-stl | s-flex | sol | 36x5 | 36x5d | Day | mt | Wsc | 4-4½x6 -32.4 | 4 | cent | own | cst | Bush | fin | sing | Eismn | hand | none | | |
| Maccar G | 5 | 5,500 | 186 | Prsh | p-stl | s-flex | sol | 36x5 | 40x6d | Day | mt | Cont | 4-4½x6 -36.1 | 2 | cent | own | cst | Bush | fin | sing | Eismn | hand | none | | |
| Master JW | 1½ | 2,290 | 142 | P&B | p-stl | s-flex | sol | 34x3½ | 34x5 | Prud | wd | Buda | 4-4½x5½-27.2 | 4 | cent | own | cst | Chgo | cel | sing | Eismn | fixed | lghtg* | West | 150 |
| Master JI | 1½ | 2,190 | 142 | P&B | p-stl | s-flex | sol | 34x3½ | 34x5 | Prud | wd | Buda | 4-4½x5½-27.2 | 4 | cent | own | cst | Chgo | cel | sing | Eismn | fixed | lghtg* | West | 150 |
| Master JM | 2 | 2,590 | 144 | P&B | p-stl | s-flex | sol | 34x4 | 36x7 | Prud | wd | Buda | 4-4½x5½-29.0 | 4 | cent | own | cst | Chgo | pln | sing | Eismn | fixed | lghtg* | West | 150 |
| Master W | 2 | 2,890 | 144 | P&B | p-stl | s-flex | sol | 34x4 | 36x7 | Prud | wd | Buda | 4-4½x5½-29.0 | 4 | cent | own | cst | Chgo | pln | sing | Eismn | fixed | lghtg* | West | 150 |
| Master A | 3½ | 3,990 | 168 | P&B | p-stl | s-flex | sol | 36x5 | 40x6d | Prud | wd | Buda | 4-4½x6 -32.4 | 4 | cent | own | cst | Chgo | cel | sing | Eismn | auto | lghtg* | West | 150 |
| Master B | 5 | 4,990 | 170 | P&B | p-stl | s-flex | sol | 36x6 | 40x6d | Sth | mt | Buda | 4-4½x6-36.1 | 4 | cent | own | cst | Chgo | fin | sing | Eismn | auto | s&i | West | 150 |
| Master Tractor T | 6 | 2,850 | 110 | P&B | p-stl | s-flex | sol | 34x4 | 36x4d | Prud | wd | Buda | 4-4½x5½-29.0 | 4 | cent | own | cst | Chgo | fin | sing | Eismn | fixed | sl&i | West | 150 |
| Maxwell | 1½ | | 124 | | p-stl | rigid | sol* | 32x3 | 32x4 | | wd | own | 4-3½x4½-21.0 | 4 | ther | own | prs | own | fin | sing | | hand | lghtg | | none |
| Menges B | 2½ | 3,000 | 155 | | p-stl | r-c | sol | 36x4 | 36x7 | | mt | Hink | 4-4½x5½-32.4 | | cent | own | | | | | Bosch | | | | |
| Menominee HT | 1 | 2,080 | 130 | own | rol-c | s-flex | sol | 34x3½ | 36x5 | Stn | wd | Wsc | 4-3½x5 -22.5 | 4 | cent | own | cst | G&O | fin | sing | Eismn | hand | lghtg | Eismn | |
| Menominee H | 1½ | 2,725 | 144 | own | rol-c | s-flex | sol | 36x3½ | 36x5 | Stn | wd | Wsc | 4-4 x5 -25.6 | 4 | cent | own | cst | G&O | fin | sing | Eismn | hand | lghtg | Eismn | |
| Menominee D | 2 | 3,245 | 144 | own | rol-c | s-flex | sol | 36x4 | 36x4d | Stn | wd | Wsc | 4-4 x6 -25.6 | 4 | cent | own | cst | G&O | fin | sing | Eismn | hand | lghtg | Eismn | |
| Menominee G | 3½ | 4,270 | 160 | own | rol-c | rigid | sol | 36x5 | 36x5d | Sth | mt | Wsc | 4-4½x6 -32.4 | 4 | cent | own | cst | G&O | fin | sing | Eismn | hand | lghtg | opt | |
| Menominee J3 | 5 | 5,450 | 160 | own | rol-c | rigid | sol | 36x6 | 40x6d | Sth | mt | Wsc | 4-4½x6 -36.1 | 2 | cent | own | cst | G&O | fin | sing | Eismn | hand | lghtg | opt | |
| Moline 10 | 1½ | 2,250 | 130 | P-M | p-stl | flex | pnu | 34x5 | 36x6 | | wd | | 4-3½x5 -19.6 | 4 | ther | own | cst | Mod | cel | sing | Spltf | fixed | | | |
| Moreland 20N | 1 | 2,850 | 132 | Smh | p-stl | rigid | pnu | 35x5 | 36x6 | Drt | mt | Cont | 4-3½x5 -22.5 | 1 | cent | own | | Mod | fin | sing | Berlg | hand | | none | | |
| Moreland 20B | 1½ | 3,125 | 150 | Smh | p-stl | rigid | sol | 36x3½ | 36x6 | Sth | mt | Cont | 4-4½x5½-27.2 | 1 | cent | own | cst | Mod | fin | sing | Berlg | hand | | none | | |
| Moreland 20C | 2½ | 3,900 | 168 | Smh | p-stl | rigid | sol | 36x4 | 36x8 | Sth | mt | Cont | 4-4½x5½-48.4 | 2 | cent | own | cst | Mod | fin | sing | Berlg | hand | | none | | |
| Moreland 20G | 3½ | 4,975 | 186 | Smh | p-stl | rigid | sol | 36x5 | 40x5d | Sth | mt | Cont | 4-4½x6 -36.1 | 2 | cent | own | cst | Mod | fin | sing | Berlg | hand | | none | | |
| Moreland 20J | 5 | 5,350 | 186 | Smh | p-stl | rigid | sol | 36x6 | 40x6d | Sth | mt | Cont | 4-4½x6 -36.1 | 2 | cent | own | cst | Mod | fin | sing | Berlg | hand | | none | | |
| Mutual 2B | 2 | 3,450 | 152 | S-K | p-stl | s-flex | sol | 36x4 | 36x8 | Sth | mt | Wsc | 4-4 x6 -25.6 | 4 | cent | G&O | cst | G&O | fin | sing | Bosch | hand | s&l-2 | West | |
| Mutual 2BP | 2½ | 4,150 | 152 | S-K | p-stl | s-flex | pnu | 38x7 | 42x9 | Day | mt | Wsc | 4-4x 6 -25.6 | 4 | cent | G&O | cst | G&O | fin | sing | Bosch | hand | s&l-2 | West | |
| Napoleon 9 | ½ | 1,525 | 122½ | Trav | rol-c | s-flex | sol* | 35x5* | 35x6* | Roy | wd | Gray | 4-3½x5 -19.6 | 4 | ther | G&O | cst | G&O | fin | sing | Eismn | hand | sl&i | G&D | none |
| Napoleon 11 | ¾ | 1,860 | 132½ | Trav | rol-c | s-flex | sol* | 35x5* | 36x6* | Roy | wd | Gray | 4-3½x5 -19.6 | 4 | ther | G&O | cst | G&O | fin | sing | Eismn | hand | sl&i | G&D | none |
| Nash 2018 | 1 | 1,895 | 130 | Smh | p-stl | s-flex | sol | 34x3 | 34x4 | | wd | own | 4-3½x5½-22.5 | 4 | cent | Lng | cst | Lng | fin | sing | Eismn | hand | sl&i-2 | Aut-L | none |
| Nash 3018 | 2 | 2,550 | 144 | Smh | p-stl | s-flex | sol | 34x4 | 34x6 | | wd | own | 4-3½x5½-22.5 | 4 | cent | Lng | cst | Lng | fin | sing | Eismn | hand | sl&i-2 | Aut-L | none |
| Netco D | 2 | 3,100 | 144 | P&B | p-stl | s-flex | sol* | 36x4* | 36x7* | Arch | wd | Cont | 4-4½x5½-27.2 | 4 | cent | own | cst | E&M | fin | sing | Eismn | fixed | lghtg | Eismn | 175 |
| Netco H | 2½ | 3,500 | 168 | P&B | p-stl | s-flex | sol* | 36x4* | 36x8* | Arch | wd | Cont | 4-4½x5½-32.4 | 2 | cent | own | cst | E&M | fin | sing | Eismn | fixed | lghtg | Eismn | 175 |
| New York M | 1½ | 3,100 | 144 | own | rol-c | s-flex | sol | 36x3½ | 36x5 | Arch | wd | Cont | 4-4½x5½-27.2 | 4 | cent | Kells | sht | Kells | cel | sing | Bosch | fixed | none | | |
| New York N | 2½ | 3,300 | 144 | own | rol-c | s-flex | sol | 36x4 | 36x4d | Arch | wd | Cont | 4-4½x5½-27.2 | 4 | cent | Kells | sht | Kells | cel | sing | Bosch | fixed | none | | |
| Niles E | 2 | 3,000 | 140 | Svg | p-stl | flex | sol* | 36x4* | 36x7* | H&D | wd | Cont | 4-4½x5½-27.2 | 4 | cent | Mod | cst | Mod | sq-t | sing | Eismn | hand | lghtg | Eismn | none |
| Noble AZ1 | 1 | | 130 | Shar | p-stl | s-flex | pnu | 34x4½ | 35x5 | Bim | wd | Lyc | 4-3½x5 -19.6 | 4 | ther | Lng | prs | Lng | fin | sing | West | hand | s&l-2 | West | |
| Noble B30 | 1½ | | 156 | Shar | p-stl | s-flex | sol* | 36x3½ | 36x5 | Bim | wd | Buda | 4-3½x5½-22.5 | 4 | cent | Chgo | cst | Chgo | fin | sing | Eismn | hand | s&l-2 | West | 150 |
| Noble D50 | 2½ | | 162 | Shar | p-stl | s-flex | sol* | 36x4 | 36x8 | Bim | wd | Buda | 4-4½x5½-29.0 | 4 | cent | Chgo | cst | Chgo | fin | sing | Eismn | hand | s&l-2 | West | 150 |
| Noble E70 | 3½ | | 182 | Shar | p-stl | s-flex | sol | 36x5 | 36x10 | Bim | wd* | Buda | 4-4½x6 32.4 | 4 | cent | Chgo | cst | Chgo | fin | sing | Eismn | hand | lghtg | West | 90 |
| Norwalk 25E | 1 | 1,695 | 130 | P&B | p-stl | rigid | pnu* | 34x3½ | 34x4 | E&O | wd | Lyc | 4-3½x5 -19.6 | 4 | ther | Stan | cst | Stn | cel | sing | Deleo | hand | sl&i | Dneto | |
| Norwalk 35E | 1½ | 2,025 | 143 | P&B | p-stl | rigid | pnu* | 34x3½ | 34x3½d | E&O | wd | Lyc | 4-3½x5 -19.6 | 4 | ther | Stan | cst | Stn | cel | sing | Deleo | hand | sl&i | Dneto | |
| Northway B2 | 2 | | 161 | Drt | p-stl | s-flex | sol* | 36x4 | 36x4d | Clrk | mt | own | 4-4 x6 -25.6 | 4 | cent | own | cst | G&O | zz-t | sing | Wag | hand | sl&i | West | none |
| Northway B3 | 3½ | 4,400 | 160 | Drt | p-stl | s-flex | sol | 36x5 | 40x5d | Clrk | mt | own | 4-4 x6 -25.6 | 4 | cent | own | cst | G&O | zz-t | sing | Wag | hand | sl&i | West | none |
| Nye Tractor B | 8 | 3,500 | | own | rol-c | rigid | sol | 40x7 | none | We-W | wd | Buda | 4-3½x5½-22.5 | 4 | cent | Idl | prs | Idl | cel | sing | Spltf | t-p | none | | |
| Nye Tractor C | 5 | 3,000 | | own | rol-c | rigid | sol | 40x6 | none | We-W | wd | Buda | 4-3½x5½-16.9 | 4 | ther | Idl | prs | Idl | cel | sing | Spltf | t-p | none | | |
| Ogden A1 | 1½ | 2,550 | 136 | Cas | p-stl | flex | opt | 36x3½ | 36x5 | Stn | wd | Cont | 4-4½x5 -22.5 | 4 | ther | Chgo | cst | Chgo | fin | sing | Bosch | hand | | | |
| Ogden C2 | 2½ | 3,250 | 160 | Cas | p-stl | flex | opt | 36x4 | 36x7 | Stn | wd | Cont | 4-4½x5½-27.2 | 4 | cent | Chgo | cst | Chgo | fin | sing | Bosch | hand | | | |
| Orleans A | 1½ | 2,750 | 144 | own | rol-c | s-flex | sol | 36x3½ | 36x5 | Sth | mt | Her | 4-3½x5½-22.5 | 4 | cent | Chgo | cst | Chgo | fin | sing | Eismn | hand | lghtg | | |
| Orleans B | 2½ | 3,250 | 166 | own | rol-c | s-flex | sol* | 36x4 | 36x7 | Sth | mt | Her | 4-4 x5½-25.6 | 4 | cent | Chgo | cst | Chgo | fin | sing | Eismn | hand | none | | |
| O.K HI | 1½ | 2,675 | 150 | Hyd | p-stl | s-flex | pnu | 36x6 | 36x6 | Bim | wd | Buda | 4-3½x5½-22.5 | 4 | cent | Chgo | cst | R-T | fin | sing | Eismn | hand | s&l | West | |
| O.K KI | 1½ | 2,675 | 150 | Hyd | p-stl | s-flex | pnu | 36x3½ | 36x7 | Bim | wd | Buda | 4-4 x5½-25.6 | 4 | cent | Chgo | cst | R-T | fin | sing | Eismn | hand | s&l | West | 100 |
| O.K LI | 2½ | 3,450 | 150 | Hyd | p-stl | s-flex | sol | 36x4 | 36x8 | Bim | wd | Buda | 4-4½x5½-29.0 | 4 | cent | Chgo | cst | R-T | fin | sing | Eismn | hand | s&l | West | 100 |
| O.K MI | 3½ | 4,250 | 160 | Hyd | p-stl | s-flex | sol | 36x5 | 36x5-d | Bim | wd | Buda | 4-4½x6 -32.4 | 4 | cent | Chgo | cst | R-T | fin | sing | Eismn | hand | s&l | West | 100 |
| Old Hickory W | 1 | 2,175 | 135 | own | rol-c | s-flex | sol* | 36x3½ | 36x4 | Stn | wd | Cont | 4-3½x5 -22.5 | 4 | ther | own | cst | Lng | fin | sing | Eismn | hand | none | | |
| Old Reliable A | 1½ | 2,600 | 136 | Smh | p-stl | s-flex | sol* | 34x4 | 36x6 | Crn | wd | Wsc | 4-4 x5 -25.6 | 4 | cent | Chgo | cst | Chgo | fin | sing | Bosch | hand | lghtg | Vesta | |
| Old Reliable B | 2½ | 3,600 | 160 | own | rol-c | rigid | sol | 34x4 | 36x4d | Crn | wd | Wsc | 4-4½x6 -29.0 | 4 | cent | Chgo | cst | Chgo | fin | sing | Bosch | hand | lghtg | Vesta | |
| Old Reliable C | 3½ | 4,500 | 160 | own | rol-c | rigid | sol | 36x5 | 36x5d | Crn | wd | Wsc | 4-4½x6 -29.0 | 4 | cent | Chgo | cst | Chgo | fin | sing | Bosch | hand | lghtg | Vesta | |
| Old Reliable D | 5 | 5,500 | 168 | own | rol-c | rigid | sol | 36x6 | 40x6d | Crn | wd | Wsc | 4-4½x6 -36.1 | 2 | cent | Chgo | cst | Chgo | fin | sing | Bosch | hand | lghtg | Vesta | |
| Old Reliable K, L, M | 7 | 6,250 | 136 | own | rol-c | rigid | sol | 36x6 | 40x7d | Crn | wd | Wau | 4-4½x6½-36.1 | 2 | cent | Chgo | cst | Chgo | fin | sing | Bosch | hand | none | | |
| Olds-Economy T | 1 | 1,500 | 128 | Smh | p-stl | rigid | pnu | 35x5 | 35x5 | Auto | wd | own | 4-3½x5½-22.5 | 4 | cent | own | prs | own | sq-t | dual | Aut-L | hand | sl&i-2 | Aut-L | none |
| Oneida A-9 | 1½ | 2,350 | 135 | Drt | p-stl | s-flex | sol | 36x3½ | 36x5 | MWC | wd | own | 4-3½x5½-22.5 | 4 | cent | own | cst | Mod | fin | sing | Spltf | hand | s&l | West | |
| Oneida B-10 | 2 | 2,915 | 160 | Drt | p-stl | s-flex | sol | 36x4 | 36x7 | MWC | wd | own | 4-4 x5½-25.6 | 4 | cent | own | cst | Mod | fin | sing | Spltf | hand | s&l | West | |

**ABBREVIATIONS—Types of Construction**

*—other options
**amid**—amidships
**auto**—automatic
**bevl**—bevel
**cel**—cellular
**cent**—centrifugal
**chn**—chain
**cst**—cast
**ctr**—center
**cylinders cast, 2 in pairs**
**cylinders cast, 4 in block**
**cylinders cast, 3 in threes**
**cylinders cast, 1 singly**
**cyl-ends**—cylinder-ends
**d**—dual
**d-d**—dry-disk
**d-p**—dry-plate
**dplx**—from both motor & driveshaft
**d-rd**—double reduction
**d-s**—drive-shaft
**elec**—electric
**ext-d-s**—external drive-shaft
**ext-f-w**—external front wheel
**ext-g**—external gear
**ext-jst**—external jack-shaft
**ext-r-w**—external rear wheel
**fab**—fabric
**fin**—finned tube
**flex**—flexible
**f-m**—fabric & metal
**fric**—friction
**g-p**—gear pump
**grv**—gravity
**gset**—from gearset
**hyd**—hydraulic
**ind-c**—individual clutch
**int-g**—internal gear
**int-g-4**—internal gear drive on 4 wheels
**int-r-w**—internal rear wheel
**jst**—unit with jackshaft
**l**—left
**l-b**—loose ball
**lghtg**—lighting only
**mtr**—unit with motor
**mt**—metal (wheels)
**mtl**—metal (universal joint)
**opt**—optional
**pist**—piston pump
**plan**—planetary
**pin**—plain tube
**pnu**—pneumatic
**pres**—pressure
**prog**—progressive
**prs**—pressed steel
**p&s**—pneumatics in front solids in rear
**p-stl**—pressed stcel
**r**—right
**r&c**—right & center
**r-rd**—radius rods
**rol-c**—rolled channel
**rol-i**—rolled I-beam
**selec**—selective
**s-flex**—semi-flexible
**s-fr**—sub-frame
**sht**—sheet
**s&l**—starting & lighting
**sl&i-2**—starting, lighting & ignition, 2 unit
**sol**—solid
**sprgs**—springs
**sq-t**—square tube
**start**—starting only
**suct**—suction
**t-arm**—torque arm
**ther**—thermo-syphon
**t-p**—two-point
**t-t**—torsion tube
**vac**—vacuum
**wat-tube**—water tube
**wd**—wood
**w-d**—multiple disk in oil
**w-p**—plate in oil
**wr**—wire
**zz-t**—zig-zag tube

**ABBREVIATIONS—Makers of Parts.**

*Other Options
**A-Knt**—Atwater-Kent
**Al-Ch**—Allis-Chalmers
**Amer**—American Magneto Co.
**Arch**—Archibald
**Aut-L**—Auto-Lite
**Auto**—Auto Wheel Co.
**B-Beck**—Borg & Beck
**BCA**—Bearings Co. of Am.
**Berlg**—Berling
**Bim**—Bimel
**Bl&Fl**—Blood & Flexite
**B-Lipe**—Brown-Lipe
**Blood**—Blood Bros.
**Bl&P**—Blood & Peters
**Bl&Sp**—Blood & Spicer
**B-M**—Bucyrus Mach. Tool
**Brem**—Bremer
**Cart**—Carter carburetor
**Cas**—G. M. Castle
**CAS**—C. A. S. products
**C-D**—Curran-Detroit Radiator Co.
**Chgo**—Chicago Mfg. Co.
**Chic**—Chicago Standard
**Chmp**—Champion Auto Spring Co.
**Arch**—Archibald
**Clrk**—Clark Equip. Co.
**Coen**—Corcoran Radiator Co.
**Col**—Columbia Axle Co.
**Cont**—Continental motor
**Conn**—Connecticut
**Crn**—Crane & MacMahon
**Crn-S**—Crane & MacMahon and Standard
**Day**—Dayton wheel
**Detlaf**—Detlaff
**Det**—Detroit Wheel & Rim
**Detrt**—Detroit G. & M.
**Ditl**—Disteel Wheel Co.
**Ditw**—Ditwiler Mfg. Co
**Dnet**—Dyneto

# Gasoline Motor Trucks for 1921—Cont.

| ENGINE | | | | | | | | TRANSMISSION | | | | | | | |

# Complete Mechanical Specifications of

| Name and Model | Tons Capacity | Chassis Price | Wheelbase, Inches | FRAME | | | TIRES | | | WHEELS | | ENGINE | | | | COOLING | | | | | IGNITION | | | ELEC. SYSTEM | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Size in Ins. | | | | | | | | | RADIATOR | | | | | | | | | |
| | | | | | | | | | | | | | | | | | CASE | | CORE | | | | | | | |
| | | | | Make | Material | Type | Kind | Front | Rear | Make | Type | Make | No. Cyl. Bore and Stroke N.A.C.C. Hp. | Cylinders Cast | Water Circ. | Make | Type | Make | Type | Type | Make | Spark Advance | Type | Make | Extra Cost $ |
| Oneida | C-9 | 2½ | 3,390 | 160 | Drt | p-stl | s-flex | sol | 36x4 | 36x7 | MWC | wd | own | 4-4 x5½-25.6 | 4 | cent | own | cst | Mod | fin | sing | Spltf | hand | s&l | West | |
| Oneida | D-9 | 3½ | 4,345 | 170 | Drt | p-stl | s-flex | sol | 36x5 | 36x10 | Sth | mt | own | 4-4½x5½-32.4 | 4 | cent | own | cst | Mod | fin | sing | Spltf | hand | s&l | West | |
| Oneida | E-9 | 5 | 5,460 | 180 | Drt | p-stl | s-flex | sol | 36x6 | 40x12 | Sth | mt | own | 4-4½x5½-32.4 | 4 | cent | own | cst | Mod | fin | sing | Spltf | hand | s&l | West | |
| Packard | E-C | 2 | 3,850 | 144 | own | rol-c | flex | sol | 36x3½ | 36x6 | | wd | own | 4-4⅛x5½-28.9 | 4 | cent | Fed | cst | Fed | fin | dual | Spltf | hand | s&i-2 | Bijur | 220 |
| Packard | E-X | 3 | 4,650 | 144 | own | rol-c | flex | pnu | 36x6 | 38x7 | | mt | own | 4-4⅛x5½-28.9 | 4 | cent | Fed | cst | Fed | fin | dual | Spltf | hand | s&i-2 | Bijur | 220 |
| Packard | E-D | 4 | 4,900 | 156 | own | rol-c | flex | sol | 36x5 | 36x5d | | mt | own | 4-4½x5½-32.4 | 4 | cent | Fed | cst | Fed | fin | dual | Spltf | hand | s&i-2 | Bijur | 220 |
| Packard | E-Y | 5 | 6,050 | 156 | own | rol-c | flex | pnu | 38x7 | 44x10 | | mt | own | 4-5 x5½-40.0 | 4 | cent | Fed | cst | Fed | fin | dual | Spltf | hand | s&i-2 | Bijur | 220 |
| Packard | E-F | 6 | 5,950 | 156 | own | rol-c | flex | pnu | 36x6 | 40x6d | | mt | own | 4-5 x5½-40.0 | 4 | cent | Fed | cst | Fed | fin | dual | Spltf | hand | s&i-2 | Bijur | 220 |
| Paige | 52-19 | 1½ | 2,980 | 140 | Hyd | p-stl | s-flex | sol | 34x3½ | 34x6 | Sch | wd | Hink | 4-4 x5½-25.6 | 4 | cent | own | cst | Natl | fin | sing | Bosch | hand | s&l | G&D | |
| Paige | 54-20 | 2½ | 3,535 | 150 | Hyd | p-stl | s-flex | sol | 34x4 | 34x4d | Day | mt | Hink | 4-4½x5½-29.0 | 4 | cent | Natl | cst | Natl | fin | sing | Bosch | hand | s&l-2 | G&D | |
| Paige | 51-18 | 3½ | 4,385 | 160 | Hyd | p-stl | s-flex | sol | 36x5 | 36x5d | Day | mt | Hink | 4-4½x5½-32.4 | 4 | cent | Natl | cst | Natl | fin | sing | Bosch | hand | s&l-2 | G&D | |
| Parker | F-20 | 2 | 3,500 | 150 | Smh | p-stl | flex | sol | 34x4 | 36x4d | Bim | wd | Wsc | 4-4 x6 -25.6 | 4 | cent | own | cst | Brem | pln | sing | Bosch | hand | s&l-2 | West | none |
| Parker | J-20 | 3½ | 4,400 | 160 | Smh | p-stl | flex | sol | 36x5 | 40x5d | Sth | mt | Wsc | 4-4½x6 -32.4 | 4 | cent | own | cst | Brem | pln | sing | Bosch | hand | s&l-2 | West | none |
| Parker | M-20 | 5 | 5,500 | 160 | Smh | p-stl | flex | sol | 36x6 | 40x6d | Sth | mt | Wsc | 4-4½x6 -36.1 | 2 | cent | own | cst | Brem | pln | sing | Bosch | hand | s&l-2 | West | none |
| Piedmont | 4-30 | 1½ | 1,685 | 132 | P&B | p-stl | rigid | pnu | 34x4 | 34x4 | E&O | wd | Lyc | 4-3½x5 -19.6 | 4 | ther | Stan | cst | Stan | cel | sing | Delco | hand | s&i-1 | Dneto | none |
| Pierce-Arrow | X5 | 2 | 3,750 | 150 | | p-stl | s-flex | sol | 36x4 | 36x4d | | mt | own | 4-4x 5½-25.6 | 4 | cent | | cst | | fin | t-p | Delco | hand | s&i-2 | Delco | 125 |
| Pierce-Arrow | W2 | 3½ | 4,950 | 162 | | p-stl | s-flex | sol | 36x5 | 36x5d | | mt | own | 4-4½x6 -32.4 | 4 | cent | | cst | | fin | t-p | Delco | hand | s&i-2 | Delco | 125 |
| Pierce-Arrow | R10 | 5 | 5,700 | 168 | | p-stl | s-flex | sol | 36x5 | 40x6d | | mt | own | 4-4½x6 -32.4 | 4 | cent | | cst | | fin | t-p | Delco | hand | s&i-2 | Delco | 125 |
| Pioneer | AA | 1 | 1,550 | 130 | Cas | p-stl | | pnu | 32x4½ | 32x4½ | Crn | wd | GB&S | 4-3½x4 -22.5 | 4 | ther | Wab | sht | Wab | cel | sing | Spltf | hand | s&l-2 | A-L | none |
| Pittsburger | B | 2½ | 3,700 | 160 | own | p-stl | s-flex | sol* | 36x5 | 36x7 | Sth | mt | Cont | 4-4½x5½-27.3 | 4 | cent | own | cst | G&O | fin | sing | Bosch | hand | none | | |
| Pony | | ½ | 400 | 92 | own | rol-c | s-flex | pnu | 28x3 | 28x3 | Prud | wd | own | 4-2½x4 -12.1 | 4 | ther | own | | own | cel | sing | A-Knt | auto | none | | |
| Ranger | TK | 2 | 2,575 | 136 | Drt | rol-c | rigid | pnu | 36x6 | 36x6 | Crn | wd | Wsc | 4-3¾x5 -22.5 | 4 | cent | Bush | cst | Bush | fin | sing | Spltf | hand | | | |
| Rainier | R-11 | ¾ | 2,150 | 125 | Prsh | p-stl | | pnu | 35x5 | 35x5 | Way | wd | Cont | 4-3½x5 -19.4 | 4 | ther | Har | prs | | cel | sing | Eismn | fixed | lghtg | | |
| Rainier | R-19 | 1 | 2,350 | 135 | Prsh | p-stl | | sol | 34x3½ | 34x4 | Way | wd | Cont | 4-3½x5 -19.4 | 4 | ther | Har | prs | | cel | sing | Eismn | fixed | lghtg | | |
| Rainier | R-16 | 1½ | 2,600 | 147 | Prsh | p-stl | | sol | 34x3½ | 34x5 | Way | wd | Cont | 4-3½x5 -22.5 | 4 | ther | Har | prs | | cel | sing | Eismn | fixed | lghtg | | |
| Rainier | R-18 | 2 | 2,950 | 147 | Prsh | p-stl | | sol | 34x4 | 34x6 | Way | wd | Cont | 4-4½x5½-27.2 | 4 | cent | E&M | cst | E&M | fin | sing | Eismn | hand | lghtg | | |
| Rainier | R-20 | 2½ | 3,650 | 170 | Prsh | p-stl | | sol | 34x4 | 34x7 | Way | wd | Cont | 4-4½x5½-27.2 | 4 | cent | E&M | cst | E&M | fin | sing | Eismn | hand | lghtg | | |
| Rainier | R-15 | 3½ | 4,500 | 170 | Prsh | p-stl | | sol | 36x5 | 36x5d | Way | wd | Cont | 4-4½x5½-29.0 | 2 | cent | E&M | cst | E&M | fin | sing | Eismn | hand | lghtg | | |
| Rainier | R-17 | 5 | 5,250 | 170 | Prsh | p-stl | | sol | 36x6 | 36x6d | Way | wd | Cont | 4-4½x5½-29.0 | 2 | cent | E&M | cst | E&M | fin | sing | Eismn | hand | lghtg | | |
| Reliance | 20B | 2½ | 3,200 | 156 | Savg | p-stl | flex | sol | 36x4 | 36x4d | Stn | wd | Buda | 4-4½x5½-29.0 | 4 | cent | own | cst | Bush | pln | sing | Eismn | hand | lghtg | Eismn | none |
| Reliance | 10A | 1½ | 2,500 | 150 | Savg | p-stl | flex | sol | 36x3½ | 36x5 | Stn | wd | Buda | 4-4 x5½-25.6 | 4 | cent | own | cst | Bush | pln | sing | Eismn | hand | lghtg | Eismn | none |
| Roe | F | ¾ | 1,385 | 128 | own | p-stl | | pnu | 34x4½ | 34x4½ | Prud | wd | own | 4-4½x4½-27.2 | 2 | cent | own | prs | own | fin | | | hand | | | |
| Republic | 10E | 1 | 1,645 | 124 | Drt | p-stl | s-flex | pnu | 35x5 | 35x5 | MWC | wd | Cont | 4-3½x5 -22.5 | 4 | ther | own | cst | G&O | cel | sing | Bosch | fixed | lghtg | Delco | |
| Republic | 11X | 1½ | 2,195 | 144 | Drt | p-stl | s-flex | sol | 34x3½ | 34x5 | MWC | wd | Cont | 4-3½x5 -22.5 | 4 | ther | own | cst | G&O | cel | sing | Bosch | fixed | s&l | Aut-L | 275 |
| Republic | 19 | 2½ | 2,795 | 144 | Drt | p-stl | s-flex | pnu | 36x4 | 36x7 | MWC | wd | Cont | 4-4½x5½-27.2 | 4 | cent | own | cst | G&O | cel | sing | Bosch | hand | s&l | West | 275 |
| Republic | 20 | 3½ | 3,845 | 165 | Drt | p-stl | s-flex | pnu | 36x5 | 36x10 | Sth | mt | Cont | 4-4½x5½-32.4 | 2 | cent | own | cst | G&O | cel | sing | Bosch | hand | lghtg | West | 165 |
| Riker | B | 3 | | 150 | Prsh | p-stl | rigid | sol | 36x5 | 36x5d | Day | mt | own | 4-4½x6 -29.0 | 2 | cent | own | cst | McC | fin | dual | Berlg | | s&l | West | |
| Riker | BB | 4 | | 150 | Prsh | p-stl | rigid | sol | 36x5 | 36x6d | Day | mt | own | 4-4½x6 -29.0 | 2 | cent | own | cst | McC | fin | dual | Berlg | | s&l | West | |
| Rock Falls | 11 | | | 150 | Smh | p-stl | | pnu | 35x5 | 35x5 | Mut | wd | | 6-3½x5½-29.4 | 6 | cent | | prs | S-W | zz-t | sing | West | hand | s&l | West | none |
| Rowe | CW | 1½ | 3,000 | 133 | own | rol-c | s-flex | pnu | 36x6 | 36x6 | H&D | wd | Wsc | 4-3½x5 -22.5 | 4 | cent | E&M | sht | E&M | cel | sing | Bosch | hand | none | | |
| Rowe | CDW | 2 | 3,300 | 140 | own | rol-c | s-flex | sol | 34x4 | 36x3½ | H&D | wd | Wsc | 4-4 x5 -25.4 | 4 | cent | E&M | sht | E&M | cel | sing | Bosch | hand | none | | |
| Rowe | GSW | 3 | 4,150 | 158 | own | rol-c | s-flex | sol | 34x5 | 36x5d | H&D | wd | Wsc | 4-4 x6 -25.4 | 4 | cent | E&M | sht | E&M | cel | sing | Bosch | hand | none | | |
| Rowe | GPW | 3 | 5,250 | 170 | own | rol-c | s-flex | pnu | 38x7 | 42x9 | H&D | wd | Pitt | 8-3½x5 -33.8 | 4 | cent | E&M | sht | E&M | cel | sing | West | hand | s&i-2 | West | none |
| Rowe | HW | 4 | 4,500 | 158 | own | rol-c | s-flex | sol | 36x5 | 36x6d | H&D | wd | Wsc | 4-4½x6 -29.0 | 4 | cent | E&M | sht | E&M | cel | sing | Bosch | hand | none | | |
| Rowe | FW | 5 | 5,500 | 170 | own | rol-c | s-flex | sol | 36x6 | 40x6d | H&D | wd | Wsc | 4-4½x6 -32.4 | 4 | cent | E&M | sht | E&M | cel | sing | Bosch | hand | none | | |
| Rumely | A | 1½ | 2,720 | 144 | Hyd | p-stl | s-flex | sol | 36x3½ | 36x5 | MWC | wd | Buda | 4-3¾x5½-22.5 | 4 | cent | Mod | cst | Mod | fin | sing | Spltf | hand | none | | |
| Sandow | C | 1 | 2,295 | 120 | Savg | p-stl | flex | sol | 34x3½ | 34x5 | Stn | wd | Cont | 4-3¾x5 -22.5 | 4 | ther | own | cst | Chgo | fin | sing | Eismn | hand | lghtg | Vesta | 125 |
| Sandow | CG | 1½ | 2,590 | 135 | Elyr | p-stl | s-flex | sol | 34x4 | 34x6 | Stn | wd | Cont | 4-3¾x5 -22.5 | 4 | cent | own | cst | Chgo | fin | sing | Eismn | hand | lghtg | Vesta | 125 |
| Sandow | J | 2½ | 3,375 | 165 | Elyr | p-stl | rigid | sol | 36x4 | 36x7 | Stn | wd | Cont | 4-4½x5½-27.2 | 4 | cent | own | cst | Chgo | fin | sing | Bosch | hand | lghtg | Vesta | 125 |
| Sandow | M | 3½ | 4,395 | 175 | Elyr | p-stl | rigid | sol | 36x5 | 36x5d | Stn | wd | Cont | 4-4½x5½-32.4 | 2 | cent | own | cst | Chgo | fin | sing | Bosch | hand | lghtg | Vesta | 125 |
| Sandow | L | 5 | | 175 | Elyr | p-stl | rigid | sol | 36x6 | 40x6d | Stn | wd | Cont | 4-4½x5½-32.4 | 2 | cent | own | cst | Chgo | fin | sing | Bosch | hand | | | 125 |
| Sanford | W2S | 2½ | 3,350 | 156 | P&B | p-stl | s-flex | sol* | 36x4 | 36x4d | H&D | wd | Cont | 4-4½x5½-27.2 | 4 | cent | own | cst | McC | fin | sing | Eismn | hand | lghtg | Vesta | 150 |
| Sanford | W3S | 3½ | 4,200 | 174 | P&B | p-stl | s-flex | sol | 36x5 | 36x5d | H&D | wd | Cont | 4-4½x5½-32.4 | 2 | cent | own | cst | McC | fin | sing | Eismn | hand | lghtg | Vesta | 150 |
| Sanford | W5O | 5 | 5,100 | 174 | P&B | p-stl | s-flex | sol | 36x5 | 40x6d | Sth | mt | Cont | 4-4½x6 -36.1 | 2 | cent | own | cst | McC | fin | sing | Eismn | hand | lghtg | Vesta | 150 |
| Schacht | | 2 | 3,550 | 156 | own | rol-c | flex | sol | 36x4 | 36x7 | Crn | wd | Buda | 4-4½x5½-29.0 | 4 | cent | own | cst | Brem | fin | sing | Bosch | hand | | | |
| Schacht | | 2½ | 3,850 | 156 | own | rol-c | flex | sol | 36x4 | 36x4d | Crn | wd | Buda | 4-4½x5½-29.0 | 4 | cent | own | cst | Brem | fin | sing | Bosch | hand | | | |
| Schacht | | 3½ | 4,350 | 168 | own | rol-c | flex | sol | 36x5 | 36x5d | Crn | wd | Buda | 4-4½x6 -29.0 | 4 | cent | own | cst | Brem | fin | sing | Bosch | hand | | | |
| Schacht | | 5 | 5,350 | 168 | own | rol-c | flex | sol | 36x5 | 40x6d | Crn | wd | Buda | 4-4½x6 -32.4 | 4 | cent | own | cst | Brem | fin | sing | Bosch | hand | | | |
| Selden | 1½A | 1½ | | 137½ | own | p-stl | s-flex | sol | 34x3½ | 34x5 | Arch | wd | Cont | 4-3¾x5 -22.5 | 4 | ther | Lng | cst | Lng | fin | sing | Eismn | fixed | s&i-2 | N-E | |
| Selden | 2½A | 2½ | | 145 | own | p-stl | s-flex | sol | 36x4 | 36x7 | Stn | mt | Cont | 4-4½x5½-27.3 | 4 | cent | Lng | cst | Lng | fin | sing | Eismn | hand | s&l-2 | N-E | |
| Selden | 3½A | 3½ | | 162 | own | p-stl | s-flex | sol | 36x5 | 36x10 | Stn | mt | Cont | 4-4½x5½-32.4 | 2 | cent | Lng | cst | Lng | fin | sing | Eismn | hand | s&l-2 | N-E | |
| Selden | 5A | 5 | | 164 | own | p-stl | s-flex | sol | 36x6 | 40x12 | Stn | mt | Cont | 4-4½x6 -36.1 | 2 | cent | Lng | cst | Lng | fin | sing | Eismn | hand | s&l-2 | N-E | |
| Seneca | M20 | ¾ | | 108 | P&B | p-stl | flex | pnu | 30x3½ | 30x3½ | Day | wd | LeR | 4-3¾x4½-19.6 | 4 | ther | Kug | prs | Kug | cel | sing | Conn | hand | s&i-1 | Al-Ch | none |
| Service | 220 | 1 | 2,415 | 137 | own | p-stl | flex | sol | 34x3½ | 34x5 | Bim | wd | Buda | 4-3¾x5 -19.6 | 4 | ther | Lng | cst | Lng | fin | sing | Eismn | hand | s&l | West | 230 |
| Service | 31 | 1½ | 2,985 | 150 | own | p-stl | flex | sol | 36x3½ | 36x6 | Bim | wd | Buda | 4-4 x5½-25.6 | 4 | cent | Lng | cst | Lng | fin | sing | Eismn | hand | s&l | West | 230 |
| Service | 36 | 1½ | 3,415 | 150 | own | p-stl | flex | pnu | 35x5 | 38x7 | Bim | wd | Buda | 4-4½x5½-29.0 | 4 | cent | Lng | cst | Lng | fin | sing | Eismn | hand | s&l | West | 230 |
| Service | 51 | 2½ | 3,475 | 160 | own | p-stl | flex | sol* | 36x4 | 36x7 | Bim | wd | Buda | 4-4½x5½-29.0 | 4 | cent | Lng | cst | Lng | fin | sing | Eismn | hand | s&l | West | 230 |
| Service | 71 | 3½ | 4,285 | 171 | own | p-stl | flex | sol* | 36x5 | 36x5d | Stn | mt | Buda | 4-4½x5½-29.0 | 4 | cent | Lng | cst | Lng | fin | sing | Eismn | hand | s&l | West | 230 |
| Service | 76 | 3½ | 4,485 | 171 | own | p-stl | flex | sol | 36x5 | 36x5d | Stn | mt | Buda | 4-4½x6 -32.4 | 4 | cent | Lng | cst | Lng | fin | sing | Eismn | hand | s&l | West | 230 |
| Service | 101 | 5 | 5,275 | 171½ | own | p-stl | flex | sol | 36x6 | 40x6d | Stn | mt | Buda | 4-4½x6 -32.4 | 4 | cent | Lng | cst | Lng | fin | sing | Eismn | hand | s&l | West | 230 |
| Signal | NF | 1 | 2,475 | 132 | Drt | p-stl | s-flex | pnu | 34x5 | 36x6 | Kel | wd | Cont | 4-3½x5 -22.5 | 4 | cent | McC | cst | McC | fin | sing | Eismn | fixed | none | | |
| Signal | H | 1½ | 2,925 | 146 | Savg | p-stl | s-flex | sol | 34x4 | 36x6 | Crn | wd | Cont | 4-4½x5½-27.2 | 4 | cent | McC | cst | McC | fin | sing | Eismn | fixed | none | | |
| Signal | J | 2½ | 3,275 | 150 | Savg | p-stl | s-flex | sol | 34x4 | 36x8 | Crn | wd | Cont | 4-4½x5½-27.2 | 4 | cent | McC | cst | McC | fin | sing | Eismn | fixed | none | | |
| Signal | M | 3½ | 4,275 | 168 | Savg | p-stl | s-flex | sol | 36x5 | 40x5d | Crn | wd | Cont | 4-4½x5½-32.4 | 2 | cent | McC | cst | McC | fin | sing | Eismn | fixed | none | | |
| Signal | R | 5 | 5,300 | 180 | Savg | p-stl | s-flex | sol | 36x6 | 40x6d | Sth* | mt* | Cont | 4-4½x6 -36.1 | 2 | cent | McC | cst | McC | fin | sing | Eismn | hand | none | | |
| Southern | 10 | 1 | 2,090 | 136 | P&B | p-stl | s-flex | opt | 34x4½ | 34x4 | Roy | wd | Buda | 4-3½x5 -22.5 | 4 | ther | own | cst | R-T | fin | sing | Bosch | fixed | none | | |
| Southern | 15 | 1½ | 2,590 | 146 | P&B | p-stl | s-flex | opt | 36x6 | 34x6 | Roy | wd | Cont | 4-3½x5½-22.5 | 4 | ther | own | cst | R-T | fin | sing | Bosch | fixed | none | | |
| Southern | 20 | 2 | 2,990 | 150 | own | rol-c | s-flex | opt | 36x6 | 40x8 | Roy | wd | Buda | 4-4 x5½-25.6 | 4 | cent | own | cst | R-T | fin | sing | Bosch | fixed | none | | |
| Standard | 1K | 1 | 2,475 | 134 | Prsh | p-stl | s-flex | sol* | 34x3½ | 34x4 | | wd | Cont | 4-3¾x5 -22.5 | 4 | cent | Lng | cst | Lng | fin | sing | Eismn | fixed | none | | |
| Standard | 76 | 2½ | 3,520 | 140 | own | p-stl | s-tiex | sol* | 36x4 | 36x7 | | wd | Cont | 4-4½x5½-27.2 | 2 | cent | Lng | cst | Lng | fin | sing | Eismn | fixed | none | | |
| Standard | 66 | 3½ | 4,410 | 160 | P&B | p-stl | s-flex | sol | 36x5 | 36x5d | | wd | Cont | 4-4½x5½-32.4 | 2 | cent | Lng | cst | Lng | fin | sing | Eismn | fixed | none | | |
| Standard | 5K | 5 | 5,250 | 164 | Smh | p-stl | s-flex | sol | 36x6 | 40x6d | Day | mt | Cont | 4-4½x6 -36.1 | 2 | cent | Lng | cst | Lng | fin | sing | Eismn | hand | none | | |
| Sterling | | 1½ | | 142 | own | p-stl | | sol* | 36x3½ | 36x5 | Prud* | wd* | own | 4-4 x5½-25.6 | 2 | cent | own | cst | | cel | sing | Eismn | hand | s&l-2 | West | |
| Sterling | | 2½ | | 150 | own | p-stl | flex | sol* | 36x4 | 36x4 | Prud* | wd* | own | 4-4½x5½-30.6 | 2 | cent | own | cst | | cel | sing | Eismn | hand | s&l-2 | West | |
| Sterling | | 3½ | | 162 | own | p-stl | flex | sol* | 36x5 | 40x5d | Prud* | wd* | own | 4-4½x6½-32.4 | 2 | cent | own | cst | | cel | sing | Eismn | hand | s&l-2 | West | |
| Sterling | | 5 | | 168 | own | p-stl | flex | sol* | 36x6 | 40x6d | Prud* | wd* | own | 4-5 x6½-40.0 | 2 | cent | own | cst | | cel | sing | Eismn | hand | s&l-2 | West | |
| Sterling | | 5 | | 174 | own | p-stl | flex | sol | 36x6 | 40x6d | Sth | mt | own | 4-5 x6½-40.0 | 2 | cent | own | cst | | cel | sing | Eismn | hand | s&l | West | |
| Sterling | | 7½ | | 174 | own | p-stl | flex | sol | 36x6 | 40x7d | Sth | mt | own | 4-5 x6½-40.0 | 2 | cent | own | cst | | cel | sing | Eismn | hand | s&l | West | |
| Stewart | 11 | ½ | 1,450 | 110 | Hyd | p-stl | rigid | pnu | 32x4 | 32x4 | Way | wd | LeR | 4-3½-4½-15.6 | 4 | ther | Bush | cst | Bush | fin | sing | Eismn | fixed | s&i-2 | Eismn | none |
| Stewart | 12 | 1 | 1,850 | 136 | Hyd | p-stl | rigid | pnu | 35x5 | 35x5 | Way | wd | H-S | 4-3¾x5 -19.6 | 4 | ther | Bush | cst | Bush | fin | sing | Eismn | hand | s&i-2 | Eismn | none |

See preceding pages for abbreviations.

# Gasoline Motor Trucks for 1921—Cont.

| ENGINE | | | | | | | | | TRANSMISSION | | | | | | | | | | | | | BRAKES | | CONTROL | | | UNIVERSALS | | Name and Model |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GOVERNOR | | | SPEED | | FUEL SYS. | | CLUTCH | | GEARSET | | | | FINAL DRIVE | | Total Gear Reduction | Propulsion Taken By | Torque Taken By | Springs Make | | | | | STEER'G GEAR | | | | | |
| Type | Make | Drive | Motor in r.p.m. | Truck in m.p.h. | Carbureter Make | Fuel Feed | Type | Make | Type | Make | Placed | Speeds | Type | Rear Axle Make | | | | | | | | Foot | Hand | Placed | Make | Levers | Type | Make | |
| cent. | own. | motor | 1400 | 20 | Stmbg. | vac. | d-d. | own. | selec. | Fuller. | mtr. | 4 | worm. | own. | ..... | r-rd. | sprgs. | Math. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | f-m | Sp&Pet | Oneida | C-9 |
| cent. | own. | motor | 1350 | 14 | Stmbg. | vac. | d-d. | own. | selec. | Fuller. | mtr. | 4 | worm. | Timkn | ..... | r-rd. | sprgs. | Math. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | f-m | Sp&Pet | Oneida | D-9 |
| cent. | own. | motor | 1350 | 14 | Stmbg. | vac. | d-d. | own. | selec. | Fuller. | mtr. | 4 | worm. | Timkn | ..... | r-rd. | sprgs. | Math. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | f-m | Sp&Pet | Oneida | E-9 |
| cent. | own. | motor | 1000 | 15 | own. | pres. | d-d. | own. | selec. | own. | amid. | 4 | worm. | own. | 7.25 | r-rd. | t-arm. | Sp-P. | | | | ext-d-s. | int-r-w. | l. | own. | l&c. | f-m | own&Sp | Packard | E-C |
| cent. | own. | motor | 1800 | 28 | own. | pres. | d-d. | own. | selec. | own. | amid. | 4 | worm. | own. | 7.25 | r-rd. | t-arm. | Sp-P. | | | | ext-d-s. | int-r-w. | l. | own. | l&c. | f-m | own&Sp | Packard | E-X |
| cent. | own. | motor | 1000 | 12 | own. | pres. | d-d. | own. | selec. | own. | amid. | 4 | worm. | own. | 9.00 | r-rd. | t-arm. | Sp-P. | | | | ext-d-s. | int-r-w. | l. | own. | l&c. | f-m | own&Sp | Packard | E-D |
| cent. | own. | motor | 1600 | 25 | own. | pres. | d-d. | own. | selec. | own. | amid. | 4 | worm. | own. | 9.00 | r-rd. | t-arm. | Sp-P. | | | | ext-d-s. | int-r-w. | l. | own. | l&c. | f-m | own&Sp | Packard | E-Y |
| cent. | own. | motor | 1000 | 11 | own. | pres. | d-d. | own. | selec. | own. | amid. | 4 | worm. | own. | 10.66 | r-rd. | t-arm. | Sp-P. | | | | ext-d-s. | int-r-w. | l. | own. | l&c. | f-m | own&Sp | Packard | E-F |
| cent. | Simp. | motor | 1400 | 18 | Stmbg. | vac. | d-d. | B-Lipe | selec. | B-Lipe | amid. | 4 | worm. | Timkn | 7.75 | r-rd. | sprgs. | S-P. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer. | Paige | 52-19 |
| cent. | Simp. | motor | 1250 | 15 | Stmbg. | vac. | d-d. | B-Lipe | selec. | B-Lipe | amid. | 4 | worm. | Shel. | 8.75 | r-rd. | sprgs. | S-P. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer. | Paige | 54-20 |
| cent. | Simp. | motor | 1200 | 12 | Stmbg. | vac. | d-d. | B-Lipe | selec. | B-Lipe | amid. | 4 | worm. | Timkn | 10.33 | r-rd. | sprgs. | S-P. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer. | Paige | 51-18 |
| suct. | Mnrch. | motor | 1050 | 15 | Stmbg. | grv. | d-d. | B-Lipe | selec. | Fuller. | amid. | 4 | worm. | own. | 7.75 | r-rd. | sprgs. | Tuth. | | | | ext-d-s. | int-r-w. | l. | Ross. | ctr. | mtl | Blood. | Parker | 20-F |
| suct. | Mnrch. | motor | 1050 | 15 | Stmbg. | grv. | d-d. | B-Lipe | selec. | Warn. | amid. | 4 | worm. | own. | 8.75 | r-rd. | sprgs. | Tuth. | | | | ext-d-s. | int-r-w. | l. | Ross. | ctr. | mtl | Blood. | Parker | 20-J |
| cent. | Simp. | motor | 1050 | 12 | Stmbg. | grv. | d-d. | B-Lipe | selec. | Warn. | amid. | 4 | worm. | Timkn | 10.25 | r-rd. | sprgs. | Tuth. | | | | ext-d-s. | int-r-w. | l. | Ross. | ctr. | mtl | Blood. | Parker | 20-M |
| nonce. | ..... | ..... | 2200 | 20 | Cart. | vac. | d-p. | B-Beck. | selec. | G-Lees. | mtr. | 3 | worm. | Dunk | ..... | sprgs. | sp gs. | S-P. | | | | ext-r-w. | int-r-w. | l. | Lavn. | r. | mtl | Spicer. | Piedmont | 4-30 |
| cent. | own. | motor | 1400 | 18 | Stmbg. | pres. | d-d. | ..... | selec. | ..... | amid. | 4 | worm. | ..... | 9.66 | sprgs. | sprgs. | ..... | | | | int-r-w. | int-r-w. | l. | ..... | ctr. | f-m | ..... | Pierce-Arrow | X5 |
| cent. | own. | motor | 1200 | 16 | Stmbg. | pres. | d-d. | ..... | selec. | own. | amid. | 4 | worm. | own. | 8.00 | r-rd. | t-arm. | ..... | | | | ext-d-s. | int-r-w. | l. | ..... | ctr. | f-m | ..... | Pierce-Arrow | W2 |
| cent. | own. | motor | 1200 | 14 | Stmbg. | pres. | d-d. | ..... | selec. | own. | amid. | 4 | worm. | own. | 10.00 | r-rd. | t-arm. | ..... | | | | ext-d-s. | int-r-w. | l. | ..... | ctr. | f-m | ..... | Pierce-Arrow | R10 |
| none. | ..... | ..... | 1000 | 22 | Zenith. | vac. | d-d. | Drt. | ..... | ..... | amid. | 3 | worm. | Iron. | 6.00 | sprgs. | sprgs. | GCS. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | fab | Th&Sn. | Pioneer | AA |
| suct. | Mnrch. | motor | 1264 | 15 | Stmbg. | vac. | d-d. | ..... | prog. | B-Lipe | mtr. | 4 | worm. | Shel. | 8.75 | r-rd. | sprgs. | Iron. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer. | Pittsburger | B |
| none. | ..... | ..... | 1500 | 30 | Stmbg. | grv. | ..... | ..... | ..... | ..... | amid. | 3 | chn. | own. | 4.00 | r-rd. | ..... | Tuth. | | | | int-r-w. | int-d-s. | ..... | own. | ..... | mtl | own. | Pony | ..... |
| cent. | Dpix. | motor | 1600 | 12 | Zenith. | grv. | d-d. | Fuller. | selec. | Fuller. | mtr. | 3 | worm. | Timkn | 9.25 | r-rd. | sprgs. | Stand. | | | | int-r-w. | int-r-w. | l. | Ditw. | ctr. | mtl | Unvsl. | Ranger | C |
| suct. | Mnrch. | motor | ..... | 25 | Zenith. | vac. | d-d. | B-Lipe | selec. | B-Lipe | mtr. | 3 | worm. | Timkn | ..... | sprgs. | sprgs. | S-P. | | | | int-r-w. | int-r-w. | l. | Lavn. | ctr. | mtl | Hart. | Rainier | R-11 |
| suct. | Mnrch. | motor | ..... | 20 | Zenith. | vac. | d-d. | B-Lipe | selec. | B-Lipe | mtr. | 3 | worm. | Shel. | ..... | sprgs. | sprgs. | S-P. | | | | int-r-w. | int-r-w. | l. | Lavn. | ctr. | mtl | Hart. | Rainier | R-19 |
| suct. | Mnrch. | motor | ..... | 18 | Zenith. | vac. | d-d. | B-Lipe | selec. | B-Lipe | mtr. | 3 | worm. | Shel. | ..... | sprgs. | sprgs. | S-P. | | | | int-r-w. | int-r-w. | l. | Lavn. | ctr. | mtl | Spicer. | Rainier | R-16 |
| cent. | Pierce. | motor | ..... | 16 | Zenith. | vac. | d-d. | B-Lipe | selec. | B-Lipe | mtr. | 4 | worm. | Shel. | ..... | sprgs. | sprgs. | S-P. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer. | Rainier | R-18 |
| cent. | Pierce. | motor | ..... | 16 | Zenith. | vac. | d-d. | B-Lipe | selec. | B-Lipe | amid. | 4 | worm. | Timkn | ..... | r-rd. | sprgs. | Sp-P. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer. | Rainier | R-20 |
| cent. | Pierce. | motor | ..... | 15 | Zenith. | vac. | d-d. | B-Lipe | selec. | B-Lipe | amid. | 4 | worm. | Timkn | ..... | r-rd. | sprgs. | Sp-P. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer. | Rainier | R-15 |
| cent. | Pierce. | motor | ..... | 15 | Zenith. | vac. | d-d. | B-Lipe | selec. | B-Lipe | amid. | 4 | worm. | Timkn | ..... | rct-r. | sprgs. | Sp-P. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer. | Rainier | R-17 |
| cent. | Pierce. | motor | 1000 | 14 | Stmbg. | grv. | d-d. | Fuller. | ind-c. | Cotta. | amid. | 4 | ext-g. | Badg. | 7.50 | sprgs. | sprgs. | Shel. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Pot. | Reliance | 20B |
| cent. | Pierce. | motor | 1000 | 14 | Stmbg. | grv. | d-d. | Fuller. | selec. | Fuller. | mtr. | 3 | ext-g. | Badg. | 6.60 | sprgs. | sprgs. | Shel. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Pot. | Reliance | 10A |
| ..... | ..... | ..... | ..... | ..... | John. | grv. | d-d. | ..... | own. | selec. | own. | amid. | 3 | bevel. | own. | 4.60 | sprgs. | t-arm. | Penn. | | | int-r-w. | ..... | l. | own. | ctr. | f-m | own. | Reo | F |
| ..... | ..... | ..... | 1500 | 25 | Stmbg. | grv. | d-d. | Fuller. | selec. | Fuller. | mtr. | 3 | int-g. | Torbn. | 6.28 | sprgs. | sprgs. | Math. | | | | ext-r-w. | int-r-w. | l. | Jacox. | ctr. | mtl | Hart. | Republic | 10E |
| suct. | own. | motor | 1350 | 17 | Stmbg. | grv. | d-d. | Fuller. | selec. | Fuller. | mtr. | 3 | int-g. | Torbn. | 8.00 | sprgs. | sprgs. | Math. | | | | ext-r-w. | int-r-w. | l. | Jacox. | ctr. | mtl | Hart. | Republic | 11X |
| cent. | Phro. | motor | 1125 | 15 | Stmbg. | grv. | d-d. | Fuller. | selec. | Fuller. | mtr. | 4 | int-g. | Torbn. | 8.00 | sprgs. | sprgs. | Math. | | | | ext-r-w. | int-r-w. | l. | Jacox. | ctr. | mtl | Hart. | Republic | 19 |
| cent. | Phro. | motor | 1200 | 13 | Stmbg. | grv. | d-d. | Fuller. | selec. | Fuller. | mtr. | 4 | int-g. | Torbn. | 10.26 | sprgs. | sprgs. | Math. | | | | int-r-w. | int-r-w. | l. | Jacox. | ctr. | mtl | Hart. | Republic | 20 |
| 1-b. | own. | motor | 1350 | 14 | B&B. | grv. | cone. | own. | selec. | ..... | amid. | 4 | worm. | own. | 10.00 | r-rd. | t-arm. | Sp-P. | | | | ext-d-s. | int-r-w. | l. | Ross. | r. | mtl | own. | Riker | B |
| 1-b. | own. | motor | 1350 | 14 | B&B. | grv. | cone. | own. | selec. | ..... | amid. | 4 | worm. | own. | 10.00 | r-rd. | t-arm. | Sp-P. | | | | ext-d-s. | int-r-w. | l. | Ross. | r. | mtl | own. | Riker | BB |
| none. | ..... | ..... | 2200 | 50 | Rayfd. | vac. | d-p. | B-Beck. | selec. | G-Lees. | mtr. | 3 | bevel. | Col. | 4.45 | sprgs. | t-arm. | Tuth. | | | | int-r-w. | ext-r-w. | l. | Gem. | ctr. | mtl | Spicer. | Rock Falls | 11 |
| cent. | Dpix. | motor | 1500 | 24 | Zenith. | grv. | d-d. | B-Lipe | selec. | B-Lipe | mtr. | 4 | worm. | Shel. | 6.50 | r-rd. | sprgs. | Shel. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer* | Rowe | CW |
| cent. | Dpix. | motor | 1500 | 20 | Zenith. | grv. | d-d. | B-Lix. | selec. | B-Lipe | mtr. | 4 | worm. | Shel. | 7.75 | r-rd. | sprgs. | Shel. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer* | Rowe | CDW |
| cent. | Dpix. | motor | 1400 | 19 | Zenith. | grv. | d-d. | B-Lipe | selec. | B-Lipe | mtr. | 4 | worm. | Shel. | 7.75 | r-rd. | sprgs. | Shel. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer* | Rowe | GSW |
| none. | ..... | ..... | 2000 | 32 | Zenith. | vac. | d-d. | B-Lipe | selec. | B-Lipe | mtr. | 4 | worm. | Shel. | 7.75 | r-rd. | sprgs. | Shel. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer* | Rowe | GPW |
| cent. | Dpix. | motor | 1400 | 17 | Zenith. | grv. | d-d. | B-Lipe | selec. | B-Lipe | mtr. | 4 | worm. | Shel. | 8.75 | r-rd. | sprgs. | Shel. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer* | Rowe | HW |
| cent. | Dpix. | motor | 1300 | 17 | Zenith. | grv. | d-d. | B-Lipe | selec. | B-Lipe | mtr. | 4 | worm. | Shel. | 8.75 | r-rd. | sprgs. | Shel. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer* | Rowe | FW |
| cent. | Pierce. | motor | 1100 | 15 | Stmbg. | grv. | d-d. | Fuller. | selec. | Fuller. | mtr. | 3 | worm. | Shel. | 7.80 | sprgs. | sprgs. | Mth. | | | | int-r-w. | int-r-w. | l. | Gem. | l. | mtl | Blood. | Rumely | A |
| none. | ..... | ..... | 1400 | 18 | Stmbg. | grv. | d-d. | Fuller. | selec. | Fuller. | mtr. | 3 | worm. | Shel. | 7.87 | sprgs. | sprgs. | GCS. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer. | Sandow | G |
| none. | ..... | ..... | 1300 | 16 | Stmbg. | grv. | d-d. | Fuller. | selec. | Fuller. | mtr. | 3 | worm. | Shel. | ..... | sprgs. | sprgs. | GCS. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer. | Sandow | CG |
| suct. | Mnrch. | motor | 1100 | 15 | Stmbg. | grv. | d-d. | B-Lipe | selec. | B-Lipe | mtr. | 4 | worm. | Timkn | 9.25 | sprgs. | sprgs. | GCS. | | | | int-r-w. | int-r-w. | r. | Ross. | ctr. | mtl | Spicer* | Sandow | J |
| suct. | Mnrch. | motor | 1100 | 15 | Stmbg. | grv. | d-d. | B-Lipe | selec. | B-Lipe | amid. | 4 | worm. | Timkn | ..... | r-rd. | sprgs. | GCS. | | | | int-r-w. | int-r-w. | r. | Ross. | ctr. | mtl | Spicer* | Sandow | M |
| suct. | Mnrch. | motor | 1250 | 12 | Stmbg. | grv. | d-d. | B-Lipe | selec. | B-Lipe | amid. | 4 | worm. | Timkn | 11.66 | r-rd. | sprgs. | GCS. | | | | int-r-w. | int-r-w. | r. | Ross. | ctr. | mtl | Spicer* | Sandow | L |
| cent. | Pierce. | motor | 1260 | 16 | Stmbg. | grv. | d-p. | B-Beck. | selec. | B-Lipe | amid. | 4 | worm. | Shel. | 8.70 | sprgs. | sprgs. | Shel. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | f-m | Sp&Fl. | Sanford | W25 |
| cent. | Pierce. | motor | 1150 | 14 | Stmbg. | grv. | d-p. | B-Beck. | selec. | B-Lipe | amid. | 4 | worm. | Shel. | 8.70 | sprgs. | sprgs. | Shel. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | f-m | Sp&Fl. | Sanford | W35 |
| cent. | Cont. | motor | 1000 | 11 | Stmbg. | grv. | d-p. | B-Beck. | selec. | B-Lipe | amid. | 4 | worm. | Shel. | 10.25 | sprgs. | sprgs. | Shel. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | f-m | Sp&Fl. | Sanford | W50 |
| cent. | Dplx. | motor | 900 | .... | Schblr. | grv. | cone. | own. | selec. | own. | amid. | 3 | worm. | own. | 9.66 | r-rd. | t-arm. | Nat. | | | | ext-d-s. | int-r-w. | l. | own. | ctr. | mtl | M&E. | Schacht | |
| cent. | Dplx. | motor | 900 | .... | Schblr. | grv. | cone. | own. | selec. | own. | amid. | 3 | worm. | own. | 10.33 | r-rd. | t-arm. | Nat. | | | | ext-d-s. | int-r-w. | l. | own. | ctr. | mtl | M&E. | Schacht | |
| cent. | Dplx. | motor | 900 | .... | Schblr. | grv. | cone. | own. | selec. | own. | amid. | 4 | worm. | own. | 10.33 | r-rd. | t-arm. | Nat. | | | | ext-d-s. | int-r-w. | l. | own. | ctr. | mtl | M&E. | Schacht | |
| cent. | Dplx. | motor | 900 | .... | Schblr. | grv. | cone. | own. | selec. | own. | amid. | 8 | worm. | own. | 14.33 | r-rd. | t-arm. | Nat. | | | | ext-d-s. | int-r-w. | l. | own. | ctr. | mtl | M&E. | Schacht | |
| cent. | Pierce. | motor | 1235 | 18 | Stmbg. | grv. | d-d. | B-Lipe | selec. | B-Lipe | mtr. | 3 | worm. | Timkn | 7.00 | sprgs. | sprgs. | S-P. | | | | int-r-w. | int-r-w. | r. | Lavn. | Ctr. | mtl | Spicer. | Selden | 1½A |
| cent. | Pierce. | motor | 1200 | 16 | Stmbg. | grv. | d-d. | B-Lipe | selec. | B-Lipe | amid. | 4 | worm. | Timkn | 7.75 | r-rd. | sprgs. | S-P. | | | | int-r-w. | int-r-w. | r. | Gem. | r&c. | mtl | Spicer. | Selden | 2½A |
| cent. | Pierce. | motor | 1125 | 14 | Stmbg. | grv. | d-d. | B-Lipe | selec. | B-Lipe | amid. | 4 | worm. | Timkn | 8.75 | r-rd. | sprgs. | S-P. | | | | int-r-w. | int-r-w. | r. | Gem. | r&c. | mtl | Spicer. | Selden | 3½A |
| cent. | Cont. | motor | 1135 | 13 | Stmbg. | grv. | d-d. | Detlaf. | selec. | B-Lipe | amid. | 4 | worm. | Timkn | 10.30 | r-rd. | sprgs. | Sp-P. | | | | int-r-w. | int-r-w. | r. | Gem. | l&c. | mtl | Spicer. | Selden | 5A |
| none. | ..... | ..... | 2200 | 42 | Schblr. | vac. | d-p. | B-Beck. | selec. | Warren. | mtr. | 3 | bevel. | Peru. | 4.75 | sprgs. | t-arm. | Math. | | | | ext-r-w. | int-r-w. | l. | Ditw. | ctr. | mtl | Unvsl. | Seneca | M20 |
| none. | ..... | ..... | 1700 | 18 | Stmbg. | vac. | d-d. | Fuller. | selec. | Fuller. | mtr. | 3 | worm. | Timkn | 7.75 | sprgs. | sprgs. | opt. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Arvac. | Service | 220 |
| none. | ..... | ..... | 1400 | 15 | Stmbg. | vac. | d-p. | B-Beck. | selec. | B-Lipe | amid. | 4 | worm. | Timkn | 7.75 | sprgs. | sprgs. | opt. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | f-m | Sp&o. | Service | 31 |
| none. | ..... | ..... | 1400 | 15 | Stmbg. | vac. | d-p. | B-Beck. | selec. | B-Lipe | amid. | 4 | worm. | Timkn | 7.00 | sprgs. | sprgs. | opt. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | f-m | Sp&o. | Service | 36 |
| none. | ..... | ..... | 1400 | 15 | Stmbg. | vac. | d-p. | B-Beck. | selec. | B-Lipe | amid. | 4 | worm. | Timkn | 7.75 | sprgs. | sprgs. | opt. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | f-m | Sp&o. | Service | 51 |
| none. | ..... | ..... | 1400 | 13 | Stmbg. | vac. | d-p. | B-Beck. | selec. | B-Lipe | amid. | 4 | worm. | Timkn | 8.75 | r-rd. | sprgs. | opt. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | f-m | Sp&o. | Service | 71 |
| none. | ..... | ..... | 1250 | 14 | Stmbg. | vac. | d-p. | B-Beck. | selec. | B-Lipe | amid. | 4 | worm. | Timkn | 7.80 | r-rd. | sprgs. | opt. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | f-m | Sp&o. | Service | 76 |
| none. | ..... | ..... | 1250 | 11 | Stmbg. | vac. | d-p. | B-Beck. | selec. | B-Lipe | amid. | 4 | worm. | Timkn | 10.25 | r-rd. | sprgs. | opt. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | f-m | Sp&o. | Service | 101 |
| cent. | Pierce. | motor | 1400 | 20 | Stmbg. | grv. | d-d. | B-Lipe | selec. | B-Lipe | amid. | 3 | worm. | Timkn | 9.25 | r-rd. | sprgs. | Dtr. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Unvsl. | Signal | NF |
| cent. | Pierce. | motor | 1100 | 15 | Stmbg. | grv. | d-d. | B-Lipe | selec. | B-Lipe | amid. | 4 | worm. | Timkn | 9.25 | r-rd. | sprgs. | Dtr. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Unvsl. | Signal | H |
| cent. | Pierce. | motor | 1100 | 15 | Stmbg. | grv. | d-d. | B-Lipe | selec. | B-Lipe | amid. | 4 | worm. | Timkn | 9.25 | r-rd. | sprgs. | Dtr. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer. | Signal | J |
| cent. | Pierce. | motor | 1200 | 12 | Stmbg. | grv. | d-d. | B-Lipe | selec. | B-Lipe | amid. | 4 | worm. | Timkn | 12.00 | r-rd. | sprgs. | Dtr. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer. | Signal | M |
| cent. | Cont. | motor | 1200 | 12 | Stmbg. | grv. | d-d. | B-Lipe | selec. | B-Lipe | amid. | 4 | worm. | Timkn | 11.66 | r-rd. | sprgs. | Dtr. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer. | Signal | R |
| cent. | Pierce. | motor | 1400 | 20 | Zenith. | vac. | d-d. | Fuller. | selec. | Fuller. | mtr. | 3 | worm. | Fred. | 7.75 | sprgs. | sprgs. | Shel. | | | | ext-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | BCA. | Southern | 10 |
| cent. | Pierce. | motor | 1400 | 18 | ..... | vac. | d-d. | Fuller. | selec. | Fuller. | mtr. | 3 | worm. | Shel. | 8.25 | sprgs. | sprgs. | Shel. | | | | ext-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | BCA. | Southern | 1b |
| cent. | Pierce. | motor | 1400 | 15 | Zenith. | vac. | d-d. | Fuller. | selec. | Fuller. | mtr. | 3 | worm. | Shel. | 9.00 | sprgs. | sprgs. | Shel. | | | | ext-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | BCA. | Southern | 20 |
| suct. | Mnrch. | motor | 1200 | 17 | Stmbg. | vac. | d-d. | B-Lipe | selec. | B-Lipe | mtr. | 3 | worm. | Timkn | ..... | r-rd. | sprgs. | S-P. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer. | Standard | 1K |
| suct. | Mnrch. | motor | 1200 | 15 | Stmbg. | vac. | d-d. | B-Lipe | selec. | B-Lipe | amid. | 4 | worm. | Timkn | ..... | r-rd. | sprgs. | S-P. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer. | Standard | 7G |
| suct. | Mnrch. | motor | 1000 | 12 | Stmbg. | vac. | d-d. | B-Lipe | selec. | B-Lipe | amid. | 4 | worm. | Timkn | ..... | r-rd. | sprgs. | S-P. | | | | int-r-w. | int-r-w. | l. | Gem. | ctr. | mtl | Spicer. | Standard | 6G |
| suct. | Mnrch. | motor | 1300 | 10 | Stmbg. | vac. | d-d. | B-Lipe | selec. | B-Lipe | amid. | 4 | worm. | Timkn | ..... | r-rd. | sprgs. | S-P. | | | | int-r-w. | int-r-w. | l. | Gem. | ctr. | mtl | Spicer. | Standard | 5K |
| cent. | Wau. | motor | 1000 | 18 | Zenith. | vac. | d-d. | B-Lipe | selec. | B-Lipe | mtr. | 4 | worm. | Timkn | 7.00 | r-rd. | sprgs. | Math. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer. | Sterling | |
| cent. | Wau. | motor | 1000 | 16 | Zenith. | vac. | d-d. | B-Lipe | selec. | B-Lipe | mtr. | 4 | worm. | Timkn | 7.70 | r-rd. | sprgs. | Math. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer. | Sterling | |
| cent. | Wau. | motor | 1000 | 15 | Zenith. | vac. | w-d. | H-S. | ind-c. | own. | amid. | 3 | worm. | Timkn | 8.75 | r-rd. | sprgs. | Math. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Unvsl* | Sterling | |
| cent. | Wau. | motor | 1000 | 15 | Zenith. | vac. | w-d. | H-S. | ind-c. | own. | amid. | 3 | worm. | Timkn | 8.80 | r-rd. | sprgs. | Math. | | | | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Unvsl* | Sterling | |
| cent. | Wau. | motor | 1000 | 18 | Zenith. | vac. | w-d. | H-S. | ind-c. | own. | amid. | 6 | ..... | own. | 7.40 | r-rd. | ..... | Math. | | | | int-r-w. | ext-d-s. | l. | Ross. | ctr. | mtl | Unvsl. | Sterling | |
| cent. | Wau. | motor | 1000 | 16 | Zenith. | vac. | w-d. | H-S. | ind-c. | own. | amid. | 6 | chn. | own. | 7.26 | r-rd. | ..... | Math. | | | | int-r-w. | ext-d-s. | l. | Ross. | ctr. | mtl | Unvsl. | Sterling | |
| none. | ..... | ..... | 1400 | 22 | Zenith. | grv. | d-p. | B-Beck. | selec. | Dur. | mtr. | 3 | int-g. | Clrk. | 6.60 | sprgs. | sprgs. | Drt. | | | | ext-r-w. | ext-d-s. | l. | CAS. | ctr. | mtl | Hart. | Stewart | 11 |
| none. | ..... | ..... | 1200 | 20 | Zenith. | grv. | d-p. | B-Beck. | selec. | Dur. | mtr. | 3 | int-g. | Clrk. | 6.75 | sprgs. | sprgs. | Drt. | | | | ext-r-w. | ext-d-s. | l. | Ross. | ctr. | mtl | Hart. | Stewart | 12 |

See preceding pages for abbreviations.

# Complete Mechanical Specifications of

| Name and Model | Tons Capacity | Chassis Price | Wheelbase, Inches | FRAME Make | FRAME Material | FRAME Type | TIRES Kind | TIRES Size in Ins. Front | TIRES Size in Ins. Rear | WHEELS Make | WHEELS Type | ENGINE Make | ENGINE No. Cyl. Bore and Stroke—N.A.C.C. Hp. | ENGINE Cylinders Cast | COOLING Water Circ. | COOLING RADIATOR CASE Make | COOLING RADIATOR CASE Type | COOLING RADIATOR CORE Make | COOLING RADIATOR CORE Type | IGNITION Type | IGNITION Make | IGNITION Spark Advance | ELEC. SYSTEM Type | ELEC. SYSTEM Make | Extra Cost $ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Stewart .....9 | 1½ | 2,450 | 140 | Hyd. | p-stl. | rigid | sol. | 34x3½ | 34x5 | Way. | wd. | Cont. | 4-3½x5 -22.5 | 4 | ther. | Bush. | cst. | Bush. | fin. | sing. | Eismn. | fixed | none. | ..... | ..... |
| Stewart .....7 | 2 | 3,075 | 156 | Hyd. | p-stl. | rigid | sol. | 34x4 | 34x7 | Clrk. | mt. | Cont. | 4-4½x5½-27.2 | 4 | cent. | Bush. | cst. | Bush. | fin. | sing. | Eismn. | fixed | none. | ..... | ..... |
| Stewart .....7x | 2½ | 3,200 | 156 | Hyd. | p-stl. | rigid | sol. | 34x4 | 34x7 | Clrk. | mt. | Buda. | 4-4½x5½-29.0 | 4 | cent. | Bush. | cst. | Bush. | fin. | sing. | Eismn. | hand. | none. | ..... | ..... |
| Stewart .....10 | 3½ | 4,100 | 165 | Hyd. | p-stl. | rigid | sol. | 36x5 | 36x5d | Clrk. | mt. | Cont. | 4-4½x5½-32.4 | 2 | cent. | Bush. | cst. | Bush. | fin. | sing. | Eismn. | fixed | none. | ..... | ..... |
| Stewart .....10x | 3½ | 4,100 | 165 | Hyd. | p-stl. | rigid | sol. | 36x5 | 36x5d | Clrk. | mt. | Buda. | 4-4½x6 -32.4 | 4 | cent. | Bush. | cst. | Bush. | fin. | sing. | Eismn. | hand. | none. | ..... | ..... |
| Stoughton .....A | 1 | 1,995 | 130 | Drt. | p-stl. | flex | pnu. | 34x4½ | 35x5 | Bim. | wd. | Wau. | 4-3½x5½-22.5 | 4 | cent. | own. | cst. | Chgo. | fin. | sing. | Eismn. | hand. | s&l. | West. | ..... |
| Stoughton .....B | 1½ | 2,350 | 140½ | ..... | p-stl. | flex | sol. | 36x3½ | 36x5 | Bim. | wd. | Wau. | 4-3½x5½-22.5 | 4 | cent. | own. | cst. | Chgo. | fin. | sing. | Eismn. | hand. | lghtg. | Vesta | 110 |
| Stoughton .....D | 2 | 2,800 | 140½ | Drt. | p-stl. | flex | sol. | 36x4 | 36x7 | Bim. | wd. | Her. | 4-4 x5½-25.6 | 4 | cent. | own. | cst. | Chgo. | fin. | sing. | Eismn. | hand. | lghtg. | Vesta | 110 |
| Sullivan .....E | 2 | 3,350 | 150 | P&B. | p-stl. | s-flex. | sol* | 36x4 | 36x7 | Way. | wd. | Buda. | 4-4½x5½-29.0 | 4 | cent. | own. | cst. | Bush. | fin. | sing. | Bosch | hand. | ..... | ..... | ..... |
| Sullivan .....H | 3½ | 4,650 | 170 | P&B. | p-stl. | s-flex. | sol. | 36x5 | 36x5d | Way. | wd. | Buda. | 4-4½x6 -32.4 | 4 | cent. | own. | cst. | R-T. | fin. | sing. | Bosch | hand. | ..... | ..... | ..... |
| Super-Truck .....50 | 2½ | 3,300 | 156 | P&B. | p-stl. | flex | sol. | 36x4 | 36x8 | Prud. | wd. | Wsc. | 4-4 x6 -25.6 | 4 | cent. | Chgo. | cst. | Chgo. | fin. | sing. | Bosch | hand. | lghtg. | Vesta | 50 |
| Super-Truck .....70 | 3½ | 4,300 | 164 | P&B. | p-stl. | flex | sol. | 36x5 | 40x5d | Sth. | mt. | Wsc. | 4-4½x6 -29.0 | 4 | cent. | Chgo. | cst. | Chgo. | fin. | sing. | Splt. | hand. | lghtg. | Vesta | 100 |
| Super-Truck .....100 | 5 | 5,300 | 164 | P&B. | p-stl. | flex | sol. | 36x5 | 40x12 | Sth. | mt. | Wsc. | 4-4½x6 -36.1 | 2 | cent. | Chgo. | cst. | Chgo. | fin. | sing. | Splt. | hand. | lghtg. | Vesta | 50 |
| Texas .....1921 | ½ | ..... | 115 | P&B. | p-stl. | rigid | pnu. | 33x4 | 33x4 | Stn. | wd. | Lyc. | 4-3½x5 -19.6 | 4 | ther. | Jmst. | prs. | Jmst. | cel. | sing. | Conn. | hand. | s, l & i. | Bijur | ..... |
| Tiffin .....F15 | 1½ | 2,695 | 135 | P&B. | p-stl. | flex | sol. | 36x3½ | 36x5 | Sth. | mt. | Cont. | 4-4½x5½-27.2 | 4 | cent. | own. | cst. | B&O. | fin. | sing. | Bosch* | hand. | s&l-2. | West. | 175 |
| Tiffin .....F25 | 2½ | 3,580 | 148 | P&B. | p-stl. | flex | sol. | 36x4 | 36x3½d | Sth. | mt. | Cont. | 4-4½x5½-27.2 | 4 | cent. | own. | cst. | B&O. | fin. | sing. | Bosch* | hand. | s&l-2. | West. | 175 |
| Tiffin .....F35 | 3½ | 4,760 | 160 | own. | rol-c. | s-flex. | sol. | 36x5 | 40x5d | Sth. | mt. | Cont. | 4-4½x5½-32.4 | 2 | cent. | own. | cst. | B&O. | fin. | sing. | Bosch* | hand. | s&l-2. | West. | 175 |
| Tiffin .....F50 | 5 | 5,850 | 168 | own. | rol-c. | rigid | sol. | 36x6 | 40x6d | Sth. | mt. | Cont. | 4-4½x6 -36.1 | 2 | cent. | own. | cst. | B&O. | fin. | sing. | Bosch* | hand. | s&l-2. | West. | 175 |
| Tiffin .....F60 | 6 | 6,050 | 168 | own. | rol-c. | rigid | sol. | 36x6 | 40x12 | Sth. | mt. | Cont. | 4-4½x6 -36.1 | 2 | cent. | own. | cst. | B&O. | fin. | sing. | Bosch* | hand. | s&l-2. | West. | 175 |
| Titan .....Ta | 2½ | 3,400 | 156 | Smh. | p-stl. | flex | sol* | 34x4 | 36x4d | Bim. | wd. | Buda. | 4-4½x5½-29.0 | 4 | cent. | own. | cst-a. | McC. | fin. | sing. | Eismn. | hand. | lghtg. | West. | none |
| Titan .....Ht | 3½ | 4,550 | 156 | Smh. | p-stl. | flex | sol* | 34x4 | 36x6d | Day. | mt. | Buda. | 4-4½x6 -32.4 | 4 | cent. | own. | cst-a. | own. | fin. | sing. | Eismn. | hand. | lghtg. | West. | none |
| Titan .....Hd | 6 | 5,400 | 156 | Smh. | p-stl. | flex | sol. | 36x5 | 40x6d | Clrk. | mt. | Buda. | 4-4½x6 -32.4 | 4 | cent. | own. | cst-a. | McC. | fin. | sing. | Eismn. | hand. | lghtg. | West. | none |
| Tower .....J | 1½ | 3,000 | 142 | Elyr. | p-stl. | s-flex. | pnu. | 35x5 | 38x7 | Roy. | wd. | Cont. | 4-4½-5½-27.2 | 4 | cent. | own. | cst. | Brem. | fin. | sing. | Eismn. | hand. | none. | ..... | ..... |
| Tower .....H | 2½ | 3,475 | 146 | Drt. | p-stl. | s-flex. | sol. | 36x4 | 36x7 | Prud. | wd. | Cont. | 4-4½x5½-27.2 | 4 | cent. | own. | cst. | Brem. | fin. | sing. | Eismn. | hand. | none. | ..... | ..... |
| Tower .....G | 3½ | 4,400 | 165 | Drt. | p-stl. | s-flex. | sol. | 36x5 | 36x5d | Sth. | mt. | Cont. | 4-4½x5½-32.4 | 2 | cent. | own. | cst. | Brem. | fin. | sing. | Eismn. | hand. | none. | ..... | ..... |
| Traffic .....C | 2 | 1,595 | 132 | own. | rol-c. | s-flex. | sol. | 34x3½ | 34x5 | Bim. | wd. | Cont. | 4-3½x5 -22.5 | 4 | ther. | own. | cst. | own. | cel. | sing. | Bosch | hand. | none. | ..... | ..... |
| Transport .....20 | 1 | 1,850 | 130 | Drt. | p-stl. | flex | sol. | 34x3½ | 34x4 | MWC. | wd. | Buda. | 4-3½x5½-22.5 | 4 | ther. | own. | cst. | Mod. | cel. | sing. | Eismn. | hand. | l&i. | ..... | 125 |
| Transport .....30 | 1½ | 2,250 | 140 | Drt. | p-stl. | flex | sol. | 36x3½ | 36x5 | MWC. | wd. | Cont. | 4-3½x5 -22.5 | 4 | ther. | own. | cst. | Mod. | cel. | sing. | Eismn. | hand. | l&i. | ..... | 125 |
| Transport .....50 | 2½ | 2,785 | 150 | Drt. | p-stl. | flex | sol. | 36x4 | 36x3 | MWC. | wd. | Buda. | 4-4½x5½-29.0 | 4 | cent. | own. | cst. | Mod. | cel. | sing. | Eismn. | hand. | l&i. | ..... | 125 |
| Transport .....70 | 3½ | 4,195 | 170 | ..... | p-stl. | ..... | sol. | 36x5 | 36x10 | Clrk. | mt. | Buda. | 4-4½x6 -32.4 | 4 | cent. | ..... | ..... | Mod. | cel. | sing. | Eismn. | hand. | ..... | ..... | ..... |
| Triangle .....AA | 1 | 1,600 | 128 | Mas. | rol-c. | s-flex. | pnu. | 35x5 | 35x5 | Roy. | wd. | H&S. | 4-3½x5 -16.9 | 4 | ther. | Pfx. | pst. | Pfx. | zz-t. | sing. | N-E. | hand. | s&i. | N-E | ..... |
| Triangle .....A | 1½ | 2,350 | 144 | Mas. | rol-c. | s-flex. | sol* | 34x3½ | 34x6 | Roy. | wd. | Wau. | 4-3½-5½-22.5 | 4 | cent. | Pfx. | prs. | Pfx. | zz-t. | sing. | Eismn. | hand. | s&l-2. | N-E | 125 |
| Triangle .....B | 2½ | 2,950 | 150 | Mas. | rol-c. | s-flex. | sol* | 36x4 | 36x7 | Roy* | wd* | Wau. | 4-4 x5½-25.6 | 2 | cent. | Pfx. | prs. | Pfx. | zz-t. | sing. | Eismn. | hand. | lghtg. | ..... | 100 |
| Triangle .....C | 3½ | 2,700 | 147 | Mas. | rol-c. | s-flex. | sol* | 36x4 | 36x6 | Roy. | wd. | Wau. | 4-3½x5½-22.5 | 4 | cent. | Pfx. | prs. | Pfx. | zz-t. | sing. | Eismn. | hand. | s&l. | N-E | 125 |
| Twin City .....BW | 2 | 3,000 | 150 | own. | rol-c. | rigid | sol* | 36x4 | 36x7 | Bim. | wd. | Buda. | 4-4 x5½-25.6 | 4 | cent. | own. | cst. | Mod. | cel. | sing. | Bosch | hand. | s&l-2. | ..... | ..... |
| Twin City .....AW | 3½ | 4,400 | 168 | own. | rol-c. | rigid | sol. | 36x5 | 40x5d | Sth. | mt. | own. | 4-4½x6 -29.0 | 4 | cent. | own. | cst. | Mod. | cel. | sing. | Bosch | hand. | s&l-2. | ..... | ..... |
| Ultimate .....A | 2 | 3,200 | 156 | P&B. | p-stl. | flex | sol* | 36x3½* | 36x5* | Jns. | wd. | Buda. | 4-4 x5½-25.6 | 4 | cent. | own. | cst. | Bush. | fin. | sing. | Eismn. | hand. | ..... | ..... | ..... |
| Ultimate .....AJ | 2 | 3,200 | 156 | P&B. | p-stl. | flex | pnu. | 35x5 | 38x7 | Jns. | wd. | Buda. | 4-4½x5½-29.0 | 4 | cent. | own. | cst. | Bush. | fin. | sing. | Eismn. | hand. | s&l. | West. | ..... |
| Ultimate .....B&BL | 3 | 3,750 | 154 | P&B. | p-stl. | flex | sol* | 36x4* | 36x4d* | Jns. | wd. | Buda. | 4-4½x5½-29.0 | 4 | cent. | own. | cst. | Bush. | fin. | sing. | Eismn. | hand. | ..... | ..... | ..... |
| Union .....F | 2½ | 3,150 | 155 | own. | p-stl. | s-flex. | sol* | 36x5 | 36x8 | Prud. | wd. | Wsc. | 4-4 x6 -29.0 | 4 | cent. | own. | cst-a. | G&O. | fin. | sing. | Eismn. | hand. | s&l-2. | L-N. | 200 |
| Union .....H | 4 | 3,975 | 174 | own. | p-stl. | s-flex. | sol. | 36x6 | 36x10 | Sth. | mt. | Wsc. | 4-4½x6 -32.4 | 4 | cent. | own. | cst-a. | G&O. | fin. | sing. | Eismn. | hand. | s&l-2. | L-N. | 200 |
| Union .....J | 6 | 5,450 | 193 | own. | p-stl. | rigid | sol. | 36x6 | 40x14 | Sth. | mt. | Wsc. | 4-5 x6 -40.0 | 2 | cent. | own. | cst-a. | G&O. | fin. | sing. | Eismn. | hand. | s&l-2. | L-N. | 200 |
| United .....A | 1½ | 2,445 | 145 | own. | p-stl. | s-flex. | sol* | 34x3½ | 34x5 | Prud. | wd. | Buda. | 4-3½x5½-19.6 | 4 | cent. | own. | cst. | G&O. | fin. | sing. | Eismn. | hand. | s&l-2. | West. | 185 |
| United .....B | 2½ | 3,150 | 151 | own. | p-stl. | s-flex. | sol* | 36x4 | 36x7 | Prud. | wd. | Buda. | 4-4½x5½-29.0 | 4 | cent. | own. | cst. | G&O. | fin. | sing. | Eismn. | hand. | s&l-2. | West. | 185 |
| United .....C | 3½ | 4,975 | 157 | own. | p-stl. | s-flex. | sol. | 36x5 | 36x5d | Clrk. | mt. | Buda. | 4-4½x5½-29.0 | 4 | cent. | own. | cst. | G&O. | fin. | sing. | Eismn. | hand. | s&l-2. | West. | 185 |
| United .....V | 5 | 5,100 | 160 | own. | p-stl. | s-flex. | sol. | 36x5 | 40x6d | Clrk. | mt. | Buda. | 4-4½x6 -32.4 | 4 | cent. | own. | cst. | G&O. | fin. | sing. | Eismn. | hand. | s&l-2. | West. | 185 |
| U.S .....N | 1½ | ..... | 144 | own. | p-stl. | s-flex. | sol* | 36x3½ | 36x5 | Sch. | wd. | Cont. | 4-3½x5 -19.6 | 4 | cent. | Lng. | cst. | Lng. | fin. | sing. | Eismn. | hand. | s&i-2. | Eismn. | ..... |
| U.S .....R | 3 | ..... | 156 | own. | p-stl. | s-flex. | sol. | 36x4 | 36x4d | Sch. | wd. | Hink. | 4-4 x5½-25.6 | 4 | cent. | Lng. | cst. | Long. | fin. | sing. | Eismn. | hand. | s&i-2. | Eismn. | ..... |
| U.S .....S | 4 | ..... | 168 | own. | p-stl. | s-flex. | sol* | 36x5 | 36x5d | Sch. | wd. | Hink. | 4-4½x5½-32.4 | 4 | cent. | Lng. | cst. | Long. | fin. | sing. | Eismn. | hand. | s&i-2. | G&D. | ..... |
| U.S .....T | 6 | ..... | 172 | own. | p-stl. | s-flex. | sol. | 36x6 | 40x6d | Sth. | mt. | Buda. | 4-4½x6½-36.1 | 4 | cent. | Lng. | cst. | Long. | fin. | sing. | Eismn. | hand. | ..... | ..... | ..... |
| Velie .....46 | 1½ | 2,200 | 133 | Dun. | p-stl. | s-flex. | sol. | 36x3½ | 36x5 | Bim. | wd. | Cont. | 4-3½x5 -19.6 | 4 | cent. | own. | cst. | McC. | fin. | sing. | Berlg. | hand. | none. | ..... | ..... |
| Victor .....2 | 1½ | 2,050 | 138 | own. | rol-c. | ..... | pnu* | 37x5 | 36x6 | opt. | wd. | Cont. | 4-3½x5 -22.5 | 4 | cent. | Mod. | cst. | Mod. | zz-t. | sing. | Eismn. | hand. | lghtg. | ..... | 100 |
| Vim .....29 | 2 | 1,555 | 108 | ..... | p-stl. | flex | pnu. | 31x4 | 31x4 | ..... | wd. | ..... | 4-3½x4½-15.6 | 4 | ther. | ..... | sht. | ..... | fin. | sing. | West. | hand. | sl&i-2. | West. | none |
| Vim .....31 | 1 | 2,475 | 125 | ..... | p-stl. | flex | pnu. | 35x5 | 35x5 | ..... | wd. | ..... | 4-3½x5½-22.5 | 4 | cent. | ..... | cst. | ..... | fin. | sing. | ..... | hand. | sl&i-2. | West. | none |
| Vim .....22 | 2 | 3,150 | 142 | ..... | p-stl. | flex | sol. | 36x4 | 36x6 | ..... | mt. | ..... | 4-3½x5½-22.5 | 4 | g-p. | ..... | cst. | ..... | fin. | sing. | ..... | hand. | ..... | ..... | ..... |
| Vim .....23 | 3 | 3,950 | 175 | ..... | p-stl. | flex | sol. | 36x5 | 36x5d | ..... | mt. | ..... | 4-4½x5½-29.0 | 4 | g-p. | ..... | cst. | ..... | fin. | sing. | ..... | hand. | ..... | ..... | ..... |
| Vulcan .....25 | 2½ | 4,000 | 148 | own. | p-stl. | s-flex. | sol. | 36x4 | 36x8 | Sth. | mt. | Wsc. | 4-4½x6 -29.0 | 4 | cent. | own. | cst. | Lng. | fin. | sing. | Eismn. | hand. | lghtg. | Eismn. | ..... |
| Vulcan .....25P | 3 | 4,800 | 160 | own. | p-stl. | s-flex. | sol. | 36x6 | 40x8 | Sth. | mt. | Wsc. | 4-4½x6 -29.0 | 4 | cent. | own. | cst. | Lng. | fin. | sing. | Eismn. | hand. | lghtg. | Eismn. | ..... |
| W. J. .....B | 2½ | 3,500 | 150 | Hyd. | p-stl. | rigid | sol* | 36x4 | 36x8 | Arch. | wd. | Buda. | 4-4½x5½-29.0 | 4 | cent. | Bush. | cst. | Bush. | fin. | sing. | Eismn. | hand. | lghtg. | Eismn. | 150 |
| Waltham .....E | 1½ | 2,500 | 140 | Cas. | p-stl. | ..... | pnu. | 36x6 | 38x7 | ..... | wd. | Buda. | 4-3½x5½-22.5 | 4 | cent. | Chgo. | cst. | Chgo. | fin. | sing. | Apollo | hand. | lghtg. | Bijur | ..... |
| Ware .....A | 5 | 3,000 | 135 | ..... | p-stl. | ..... | pnu* | ..... | ..... | ..... | wd. | own. | 8-3½x5 -37.0 | 4 | cent. | ..... | pst. | ..... | p-t. | sing. | ..... | hand. | sl&i. | ..... | ..... |
| Walter .....S | 5 | 5,600 | 168 | Shar. | p-stl. | flex | sol. | 36x5 | 40x6d | Day. | mt. | Wau. | 4-4½x6½-32.4 | 4 | cent. | Bush. | cst. | Bush. | fin. | sing. | Sim. | hand. | s&l. | West. | ..... |
| Ward-LaFrance .....2B | 2½ | 3,590 | 170 | own. | p-stl. | flex | sol. | 36x4 | 36x7 | H&D. | wd. | Wau. | 4-4½x5½-30.6 | 2 | cent. | own. | cst. | Lng. | fin. | sing. | Bosch | hand. | s&l. | West. | 125 |
| Ward-LaFrance .....4A | 3½ | 4,690 | 162 | own. | p-stl. | flex | sol. | 36x5 | 36x5d | Sth. | mt. | Wau. | 4-4½x6½-32.5 | 2 | cent. | own. | cst. | Lng. | fin. | sing. | Bosch | hand. | s&l. | West. | 125 |
| Ward-LaFrance .....5A | 5 | 5,590 | 164 | own. | p-stl. | flex | sol. | 36x6 | 36x6d | Sth. | mt. | Wau. | 4-5 x6½-40.0 | 2 | cent. | own. | cst. | Lng. | fin. | sing. | Bosch | hand. | s&l. | West. | 125 |
| Watson .....O | 2 | 1,750 | 128 | Prsh. | p-stl. | s-flex. | pnu. | 34x4½ | 34x4½ | Crn. | wd. | Wau. | 4-3½x5½-22.5 | 4 | cent. | G&O. | pst. | G&O. | cel. | dual. | Dneto. | hand. | sl&i-2. | Dneto. | none |
| Watson .....N | 3½ | 4,250 | 168 | Prsh. | p-stl. | rigid | sol. | 36x5 | 36x10 | Crn. | wd. | Cont. | 4-4½x5½-32.4 | 2 | cent. | own. | cst. | R-T. | fin. | sing. | Sim. | hand. | none. | ..... | ..... |
| Western .....W1½ | 1½ | 2,550 | 144 | own. | rol-c. | s-flex. | opt. | 36x3½ | 36x5 | Prud. | wd. | Cont. | 4-4½x5½-27.2 | 4 | cent. | Chgo. | cst. | Chgo. | fin. | sing. | Bosch | hand. | lghtg. | Vesta | 150 |
| Western .....L1½ | 1½ | 2,550 | 144 | Savg. | p-stl. | s-flex. | opt. | 36x3½ | 36x5 | Prud. | wd. | Buda. | 4-3½x5 -22.5 | 4 | cent. | Chgo. | cst. | Chgo. | fin. | sing. | Bosch | hand. | lghtg. | Vesta | 150 |
| Western .....W2½ | 2½ | 3,250 | 154 | own. | rol-c. | s-flex. | sol. | 36x4 | 36x7 | Prud. | wd. | Cont. | 4-4½x5½-27.2 | 4 | cent. | Chgo. | cst. | Chgo. | fin. | sing. | Bosch | hand. | lghtg. | Vesta | 150 |
| Western .....L2½ | 2½ | 3,250 | 154 | Savg. | p-stl. | s-flex. | sol. | 36x4 | 36x7 | Prud. | wd. | Buda. | 4-4½x6 -29.0 | 4 | cent. | Chgo. | cst. | Chgo. | fin. | sing. | Bosch | hand. | lghtg. | Vesta | 150 |
| Western .....W3½ | 3½ | 4,250 | 164 | own. | rol-c. | s-flex. | sol. | 36x5 | 40x5d | Prud. | wd. | Buda. | 4-4½x6 -32.4 | 4 | cent. | Chgo. | cst. | Chgo. | fin. | sing. | Bosch | hand. | lghtg. | Vesta | 150 |
| White .....15 | ¼ | 2,600 | 133½ | own. | p-stl. | ..... | pnu. | 34x4½ | 34x4½ | ..... | wd. | own. | 4-3½x5½-22.5 | 4 | cent. | ..... | sht-b. | ..... | cel. | dual. | ..... | auto. | ..... | ..... | ..... |
| White .....20 | 2 | 3,450 | 157½ | own. | p-stl. | ..... | sol* | 36x4 | 36x4 | ..... | wd. | own. | 4-3½x5½-22.5 | 4 | cent. | ..... | sht-b. | ..... | cel. | dual. | ..... | auto. | ..... | ..... | ..... |
| White .....40 | 3-3½ | 4,500 | 174 | ..... | rol-i. | ..... | sol. | 36x5 | 40x5d | ..... | mt. | own. | 4-3½x5½-22.5 | 4 | cent. | ..... | ..... | ..... | fin. | dual. | ..... | auto. | ..... | ..... | ..... |
| White .....45 | 5 | 5,000 | 174 | ..... | rol-i. | ..... | sol. | 36x6 | 40x6d | ..... | mt. | own. | 4-4½x5½-29.0 | 4 | cent. | ..... | ..... | ..... | fin. | dual. | ..... | auto. | ..... | ..... | ..... |
| White Hickory .....E | 1 | ..... | 124 | P&B. | p-stl. | s-flex. | pnu. | 34x5 | 34x5 | Bim. | wd. | Cont. | 4-4x5 -22.5 | 4 | cent. | Chgo. | cst. | Chgo. | fin. | sing. | Eismn. | fixed | none. | ..... | ..... |
| White Hickory .....H | 1½ | ..... | 144 | P&B. | p-stl. | s-flex. | sol. | 36x3½ | 36x5 | Bim. | wd. | Cont. | 4-4½x5 -22.5 | 4 | cent. | Chgo. | cst. | Chgo. | fin. | sing. | Eismn. | fixed | none. | ..... | ..... |
| White Hickory .....K | 2½ | ..... | 150 | P&B. | p-stl. | s-flex. | sol. | 36x4 | 36x7 | Bim. | wd. | Cont. | 4-4½x5½-27.2 | 4 | cent. | Chgo. | cst. | Chgo. | fin. | sing. | Eismn. | fixed | none. | ..... | ..... |
| White Hickory .....M | 3½ | ..... | 156 | Shar. | p-stl. | s-flex. | sol. | 36x5 | 36x5d | Sth. | mt. | Cont. | 4-4½x5½-32.4 | 2 | cent. | Chgo. | cst. | Chgo. | fin. | sing. | Eismn. | fixed | none. | ..... | ..... |
| Wichita .....K | 1 | 2,300 | 144 | own. | p-stl. | s-flex. | sol* | 36x3 | 36x4 | ..... | wd. | own. | 4-3½x5 -19.6 | 4 | ther. | ..... | cst. | ..... | cel. | sing. | ..... | hand. | none. | ..... | ..... |
| Wichita .....L | 1½ | ..... | 144 | own. | p-stl. | s-flex. | sol* | 36x3½ | 36x5 | ..... | wd. | ..... | 4-3½x5½-22.5 | 4 | cent. | ..... | cst. | ..... | cel. | sing. | ..... | hand. | none. | ..... | ..... |
| Wichita .....M | 2 | 2,800 | 144 | own. | p-stl. | ..... | sol* | 36x3½ | 36x6 | ..... | wd. | ..... | 4-3½x5½-22.5 | 4 | cent. | ..... | cst. | ..... | fin. | sing. | ..... | hand. | none. | ..... | ..... |
| Wichita .....R | 2½ | 3,000 | 144 | own. | p-stl. | s-flex. | sol* | 36x4 | 36x7 | ..... | mt. | ..... | 4-3½x5½-22.5 | 4 | cent. | ..... | cst. | ..... | fin. | sing. | ..... | hand. | none. | ..... | ..... |
| Wichita .....Rx | 2½ | 3,600 | 160 | own. | p-stl. | ..... | sol* | 36x4 | 36x8 | ..... | mt. | ..... | 4-4½x6 -29.0 | 4 | cent. | ..... | cst. | ..... | fin. | sing. | ..... | hand. | none. | ..... | ..... |
| Wichita .....O | 3½ | 4,800 | 165 | own. | p-stl. | s-flex. | sol* | 36x5 | 36x5 | ..... | mt. | ..... | 4-4½x6 -29.0 | 4 | cent. | ..... | cst. | ..... | fin. | sing. | ..... | hand. | none. | ..... | ..... |
| Wichita .....S | 5 | 5,000 | 165 | own. | p-stl. | s-flex. | sol. | 36x6 | 40x6d | ..... | mt. | ..... | 4-4½x6 -32.4 | 4 | cent. | ..... | cst. | ..... | fin. | sing. | ..... | hand. | none. | ..... | ..... |
| Wilcox .....AA | 1 | 2,100 | 130 | Smh. | p-stl. | flex | sol* | 36x4 | 36x4 | Crn. | wd. | Buda. | 4-3½x5½-22.5 | 4 | cent. | own. | cst. | Lng. | fin. | sing. | Bosch | hand. | lghtg. | West. | none |
| Wilcox .....B | 1½ | 2,775 | 144 | Smh. | p-stl. | flex | sol* | 36x4 | 36x5 | Sth. | mt. | own. | 4-4½x5 -29.0 | 2 | cent. | own. | cst. | Lng. | fin. | sing. | Bosch | hand. | none. | ..... | ..... |

See preceding pages for abbreviations.

# Gasoline Motor Trucks for 1921—Cont.

| ENGINE | | | | | | | | | TRANSMISSION | | | | | | | | | Springs Make | BRAKES | | CONTROL | | | UNIVERSALS | | Name and Model | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GOVERNOR | | | SPEED | | FUEL SYS. | | CLUTCH | | GEARSET | | | | FINAL DRIVE | | Total Gear Reduction | Propulsion Taken By | Torque Taken By | | Foot | Hand | STEER'G GEAR | | | | | | |
| Type | Make | Drive | Motor in r.p.m. | Truck in m.p.h. | Carbureter Make | Fuel Feed | Type | Make | Type | Make | Placed | Speeds | Type | Rear Axle Make | | | | | | | Placed | Make | Levers | Type | Make | | |
| cent. | Pierce. | motor | 1250 | 18 | Zenith | grv. | d-d | Fuller | selec. | Fuller | mtr. | 3 | int-g. | Clrk. | 7.60 | sprgs. | sprgs. | Drt. | ext-r-w. | ext-d-e. | l. | Ross. | ctr. | mtl | Hart. | Stewart | 9 |
| cent. | Pierce. | motor | 1100 | 14 | Zenith | grv. | d-d | Fuller | selec. | Fuller | mtr. | 3 | int-g. | Clrk. | 9.00 | sprgs. | sprgs. | Drt. | ext-r-w. | ext-d-e. | l. | Ross. | ctr. | mtl | Hart. | Stewart | 7 |
| cent. | Pierce. | motor | 1200 | 14 | Zenith | grv. | d-d | Fuller | selec. | Fuller | mtr. | 4 | int-g. | Clrk. | 9.00 | sprgs. | sprgs. | | ext-r-w. | ext-d-e. | l. | Ross. | ctr. | mtl | Hart. | Stewart | 7x |
| cent. | Pierce. | motor | 1120 | 12 | Zenith | grv. | d-d | Fuller | selec. | Fuller | mtr. | 4 | int-g. | Clrk. | 10.00 | sprgs. | sprgs. | Drt. | ext-r-w. | ext-d-e. | l. | Ross. | ctr. | mtl | Hart. | Stewart | 10 |
| cent. | Pierce. | motor | 1100 | 12 | Zenith | grv. | d-d | Fuller | selec. | Fuller | mtr. | 4 | int-g. | Clrk. | 10.00 | sprgs. | sprgs. | Drt. | ext-r-w. | ext-d-e. | l. | Ross. | ctr. | mtl | Hart. | Stewart | 10x |
| cent. | Wau. | motor | 1300 | 30 | Stmbg. | grv. | d-d | B-Lipe | selec. | B-Lipe | mtr. | 3 | worm. | Shel. | 5.00 | r-rd. | sprgs. | Shel. | int-r-w. | int-r-w. | l. | Lavn. | ctr. | fab | Therm. | Stoughton | A |
| cent. | Wau. | motor | 1230 | 17 | Stmbg. | grv. | d-d | B-Lipe | selec. | B-Lipe | mtr. | 4 | worm. | Shel. | 7.80 | r-rd. | sprgs. | Shel. | int-r-w. | int-r-w. | l. | Lavn. | ctr. | fab | Snead* | Stoughton | B |
| cent. | Dplx. | motor | 1230 | 17 | Stmbg. | grv. | d-d | B-Lipe | selec. | B-Lipe | mtr. | 4 | worm. | Shel. | 8.66 | r-rd. | sprgs. | Shel. | int-r-w. | int-r-w. | l. | Lavn. | ctr. | fab | Snead* | Stoughton | D |
| cent. | | | 1200 | 16 | Stmbg. | vac. | d-d | B-Lipe | selec. | B-Lipe | mtr. | 3 | worm. | Timkn | 7.75 | sprgs. | sprgs. | Shel. | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer. | Sullivan | F |
| cent. | Pierce. | motor | 1350 | 14 | Stmbg. | vac. | d-d | B-Lipe | selec. | B-Lipe | amid. | 4 | worm. | Timkn | 10.33 | r-rd. | sprgs. | Shel. | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer. | Sullivan | H |
| cent. | Dplx. | motor | 1100 | 13½ | Zenith | grv. | d-d | Fuller | selec. | Fuller | mtr. | 4 | worm. | Shel. | 8.75 | sprgs. | sprgs. | Shel. | int-r-w. | int-r-w. | l. | Lavn. | ctr. | fab | Therm. | Super-Truck | 20 |
| cent. | Dplx. | motor | 1100 | 11 | Zenith | grv. | d-d | Fuller | selec. | Fuller | amid. | 4 | worm. | Shel. | 10.25 | sprgs. | sprgs. | Shel. | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer. | Super-Truck | 20 |
| cent. | Simp. | motor | 1000 | 11 | Zenith | grv. | d-d | Fuller | selec. | Fuller | amid. | 4 | worm. | Shel. | 10.25 | r-rd. | sprgs. | Shel. | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer. | Super-Truck | 100 |
| none. | | | 1200 | 30 | Cart | vac. | d-p | B-Beck. | selec. | G-Lees | mtr. | 3 | bevel. | | 15.46 | sprgs. | t-arm. | Shel. | ext-r-w. | int-r-w. | l. | CAS. | ctr. | mtl | Unvl. | Texas | 1921 |
| cent. | Pierce. | motor | 1100 | 14 | Schblr. | grv. | d-d | Fuller | selec. | Fuller | mtr. | 3 | worm. | Shel. | 7.75 | r-rd. | sprgs. | GCS. | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Peters. | Tiffin | F15 |
| cent. | Pierce. | motor | 1100 | 13 | Schblr. | grv. | d-d | Fuller | selec. | Fuller | mtr. | 4 | worm. | Shel. | 8.70 | r-rd. | sprgs. | GCS. | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Peters. | Tiffin | F25 |
| cent. | Pierce. | motor | 1000 | 13 | Schblr. | grv. | d-d | Detlaf. | ind-e. | Cotta. | amid. | 4 | worm. | Shel. | 8.75 | r-rd. | sprgs. | GCS. | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Peters. | Tiffin | F35 |
| cent. | Cont. | motor | 1000 | 11 | Schblr. | grv. | d-d | Detlaf. | ind-e. | Cotta. | amid. | 4 | worm. | Shel. | 10.25 | r-rd. | sprgs. | GCS. | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Peters. | Tiffin | F50 |
| cent. | Cont. | motor | 1000 | 11 | Schblr. | grv. | d-d | Detlaf. | ind-e. | Cotta. | amid. | 4 | worm. | Shel. | 10.25 | r-rd. | sprgs. | GCS. | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Peters. | Tiffin | F60 |
| cent. | Simp. | motor | 1150 | 25 | Stmbg. | grv. | d-p | B-Beck. | ind-e. | Cotta. | mtr. | 4 | int-g. | Clrk. | | r-rd. | sprgs. | Math. | int-r-w. | ext-d-e. | l. | Lavn. | ctr. | mtl | M&E. | Titan | H |
| cent. | Simp. | motor | 1050 | 15 | Stmbg. | grv. | d-p | B-Beck. | ind-e. | Cotta. | mtr. | 4 | int-g. | Day. | | r-rd. | sprgs. | Math. | int-r-w. | ext-d-e. | l. | Lavn. | ctr. | mtl | Unvl. | Titan | HD |
| cent. | Simp. | motor | 1000 | 12 | Stmbg. | grv. | d-p | B-Beck. | ind-e. | Cotta. | amid. | 4 | int-g. | Clrk. | | r-rd. | sprgs. | Math. | int-r-w. | ext-d-e. | l. | Lavn. | ctr. | mtl | Unvl. | Titan | |
| none. | | | 1602 | 25 | Zenith | grv. | d-d | Fuller | selec. | Fuller | mtr. | 3 | worm. | Timkn | 7.25 | r-rd. | sprgs. | Dtr. | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Blood. | Tower | J |
| cent. | Pierce. | motor | 1296 | 15 | Zenith | grv. | d-d | Fuller | selec. | Fuller | mtr. | 3 | worm. | Timkn | 9.25 | r-rd. | sprgs. | Dtr. | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Blood. | Tower | H |
| cent. | Pierce. | motor | 1259 | 13 | Zenith | grv. | d-d | Fuller | selec. | Fuller | mtr. | 4 | worm. | Timkn | 10.33 | r-rd. | sprgs. | Dtr. | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Blood. | Tower | G |
| cent. | Simp. | d-s. | 2000 | 25 | Cart | grv. | d-d | Covert | selec. | Covert | mtr. | 3 | int-g. | Clrk. | 7.25 | sprgs. | sprgs. | Drt. | ext-r-w. | int-r-w. | l. | Jacox. | l. | fab | Snead. | Transport | 20 |
| cent. | Simp. | d-s. | 1432 | 20 | Stmbg. | grv. | d-d | Fuller | selec. | Fuller | mtr. | 3 | int-g. | Rusel. | 7.00 | sprgs. | sprgs. | Drt. | ext-r-w. | int-r-w. | l. | Jacox. | l. | mtl | Hart. | Transport | 30 |
| cent. | Simp. | l-s. | 1276 | 18 | Stmbg. | grv. | d-d | Fuller | selec. | Fuller | mtr. | 3 | int-g. | Clrk. | 7.60 | sprgs. | sprgs. | Drt. | ext-r-w. | int-r-w. | l. | Jacox. | l. | mtl | Hart. | Transport | 50 |
| cent. | Simp. | l-s. | 1180 | 15 | Stmbg. | grv. | d-d | Fuller | selec. | Fuller | mtr. | 4 | int-g. | Clrk. | 8.15 | sprgs. | sprgs. | Drt. | ext-r-w. | int-r-w. | l. | Jacox. | ctr. | | | Transport | 70 |
| cent. | Dplx. | | 1100 | 12 | Stmbg. | grv. | | B-Beck. | ind-e. | Cotta. | mtr. | 4 | int-g. | Clrk. | 10.00 | | | | ext-r-w. | int-r-w. | l. | Gem. | ctr. | mtl | Drt&U | Triangle | AA |
| none. | | | | | Stmbg. | grv. | d-d | Fuller | selec. | Fuller | mtr. | 3 | int-g. | Clrk. | 6.60 | sprgs. | sprgs. | Dtr. | ext-d-e. | ext-r-w. | l. | Gem. | ctr. | mtl | Unvl. | Triangle | A |
| cent. | Wau. | motor | 1000 | 18 | Stmbg. | grv. | d-d | Fuller | selec. | Fuller | mtr. | 3 | int-g. | Clrk. | 7.00 | sprgs. | sprgs. | Dtr. | ext-d-e. | ext-r-w. | l. | Gem. | ctr. | mtl | Unvl. | Triangle | B |
| cent. | Wau. | motor | 1000 | 16 | Stmbg. | grv. | d-d | Fuller | selec. | Fuller | mtr. | 4 | int-g. | Clrk. | 9.00 | sprgs. | sprgs. | Dtr. | ext-d-e. | ext-r-w. | l. | Gem. | ctr. | mtl | Drt. | Triangle | C |
| 1-ton | Wau. | motor | 1200 | 16 | Stmbg. | grv. | d-d | Fuller | selec. | Fuller | mtr. | 3 | int-g. | Clrk. | 8.00 | sprgs. | sprgs. | Dtr. | ext-d-e. | ext-r-w. | l. | Gem. | ctr. | mtl | Drt. | Triangle | D |
| cent. | Simp. | motor | 1100 | 14 | Stmbg. | vac. | d-d | Fuller | selec. | Fuller | mtr. | 3 | int-g. | Clrk. | 8.00 | sprgs. | sprgs. | Math. | ext-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Arvac. | Twin City | BW |
| cent. | own. | motor | 1000 | 11 | Schblr. | vac. | d-p | B-Beck. | selec. | Fuller | amid. | 4 | worm. | Timkn | 10.33 | r-rd. | sprgs. | Math. | int-r-w. | int-r-w. | l. | Ross. | ctr. | m-f | Fl&Sp. | Twin City | AW |
| cent. | Pierce. | motor | 1100 | 20 | Stmbg. | grv. | d-d | B-Lipe | selec. | B-Lipe | mtr. | 4 | worm. | Shel. | 6.50 | r-rd. | sprgs. | Shel. | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer. | Ultimate | A |
| none. | | | 1100 | 40 | Stmbg. | grv. | d-d | B-Lipe | selec. | B-Lipe | mtr. | 4 | worm. | Shel. | 6.50 | r-rd. | sprgs. | Shel. | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer. | Ultimate | AJ |
| cent. | Pierce. | motor | 1100 | 16 | Stmbg. | grv. | d-d | B-Lipe | selec. | B-Lipe | mtr. | 4 | worm. | Shel. | 7.75 | r-rd. | sprgs. | Shel. | ext-r-w. | ext-r-w. | l. | Ross. | ctr. | mtl | Spicer. | Ultimate | B&BL |
| cent. | Dplx. | motor | 1100 | 15 | Schblr. | grv. | d-d | Fuller | selec. | Fuller | mtr. | 4 | int-g. | Rusel. | 7.80 | sprgs. | sprgs. | Math. | ext-r-w. | int-r-w. | l. | Ross. | r&e. | mtl | U.P. | Union | F |
| cent. | Dplx. | motor | 1100 | 12 | Schblr. | grv. | d-d | Fuller | selec. | Fuller | mtr. | 4 | int-g. | Torbn. | 10.25 | sprgs. | sprgs. | Math. | int-r-w. | ext-d-e. | l. | Ross. | r&e. | mtl | U.P. | Union | H |
| cent. | Dplx. | motor | 1100 | 10 | Schblr. | grv. | d-d | Fuller | selec. | Fuller | amid. | 4 | int-g. | Rusel. | 10.10 | sprgs. | sprgs. | Math. | int-r-w. | ext-d-e. | l. | Ross. | r&e. | mtl | M&E. | Union | J |
| cent. | Simp. | motor | 1124 | 15 | Stmbg. | grv. | d-d | Fuller | selec. | Fuller | mtr. | 3 | int-g. | Clrk. | 7.60 | sprgs. | sprgs. | | ext-r-w. | int-r-w. | l. | Jacox. | r&e. | mtl | Blood. | United | A |
| cent. | Simp. | motor | 1059 | 14 | Stmbg. | grv. | d-d | Fuller | selec. | Fuller | amid. | 4 | int-g. | Clrk. | 8.15 | sprgs. | sprgs. | | ext-r-w. | int-r-w. | l. | Jacox. | ctr. | f-m | Th&Bl. | United | B |
| cent. | Simp. | motor | 1120 | 12 | Stmbg. | grv. | d-d | Fuller | selec. | Fuller | amid. | 4 | int-g. | Clrk. | 10.00 | sprgs. | sprgs. | | int-r-w. | int-r-w. | l. | Lavn. | ctr. | f-m | Th&Bl. | United | C |
| cent. | Simp. | motor | 1155 | 10 | Stmbg. | grv. | d-d | Fuller | selec. | Fuller | amid. | 4 | int-g. | Clrk. | 12.50 | sprgs. | sprgs. | | int-r-w. | int-r-w. | l. | Ross. | ctr. | f-m | Th&Bl. | United | V |
| none. | | | 1400 | 19 | Stmbg. | vac. | d-d | B-Lipe | selec. | B-Lipe | mtr. | 3 | int-g. | Clrk. | 7.60 | sprgs. | sprgs. | Shel. | ext-r-w. | int-r-w. | l. | Lavn. | ctr. | mtl | Blood. | U.S. | N |
| cent. | Hink. | motor | 1400 | 17 | Stmbg. | vac. | d-d | B-Lipe | selec. | B-Lipe | amid. | 4 | worm. | Shel. | 8.70 | sprgs. | sprgs. | Shel. | int-r-w. | int-r-w. | l. | Lavn. | ctr. | f-m | Bl&Fl. | U.S. | R |
| cent. | Hink. | motor | 1200 | 12 | Stmbg. | vac. | d-d | B-Lipe | selec. | B-Lipe | amid. | 4 | worm. | Shel. | 10.25 | sprgs. | sprgs. | Shel. | int-r-w. | int-r-w. | l. | Lavn. | ctr. | f-m | Bl&Fl. | U.S. | S |
| cent. | Simp. | motor | 950 | 11 | Stmbg. | vac. | d-d | B-Lipe | selec. | B-Lipe | amid. | 4 | worm. | Shel. | 10.25 | sprgs. | sprgs. | Shel. | int-r-w. | ext-d-e. | l. | Lavn. | ctr. | f-m | Bl&Fl. | U.S. | T |
| suct. | Mnrch. | motor | 1350 | 18 | Stmbg. | grv. | d-p | B-Beck. | selec. | Dur. | mtr. | 3 | int-g. | Torbn. | 8.00 | sprgs. | sprgs. | Math. | ext-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Arvac. | Velie | 46 |
| none. | | | | | Stmbg. | grv. | d-d | Fuller | selec. | Fuller | mtr. | 3 | worm. | Fred. | | sprgs. | sprgs. | Tuth. | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Acme. | Victor | |
| | | | | | | grv. | d-p | | selec. | | mtr. | 3 | worm. | | 5.50 | sprgs. | sprgs. | | int-r-w. | int-r-w. | l. | | ctr. | mtl | | Vim | 29 |
| | | | | | | grv. | d-p | | selec. | | mtr. | 3 | worm. | | 6.50 | sprgs. | sprgs. | | int-r-w. | int-r-w. | l. | | ctr. | mtl | | Vim | 31 |
| | | | | | | grv. | d-p | | selec. | | mtr. | 3 | worm. | | 7.75 | sprgs. | sprgs. | | int-r-w. | int-r-w. | l. | | ctr. | mtl | | Vim | 22 |
| cent. | | motor | | | | grv. | d-p | | selec. | | mtr. | 4 | worm. | | 7.75 | sprgs. | sprgs. | | int-r-w. | int-r-w. | l. | | ctr. | mtl | | Vim | 23 |
| cent. | | | | | | grv. | d-p | | selec. | | amid. | 4 | worm. | | 7.75 | sprgs. | sprgs. | | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer. | Velcan | 25 |
| cent. | Pierce. | motor | 1250 | 15 | Zenith | grv. | d-d | B-Lipe | selec. | B-Lipe | amid. | 4 | worm. | Shel. | 8.75 | r-rd. | sprgs. | Shel. | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer. | Vulcan | 25P |
| cent. | Pierce. | motor | 1350 | 21 | Zenith | grv. | d-d | B-Lipe | selec. | B-Lipe | amid. | 4 | worm. | Shel. | 7.75 | r-rd. | sprgs. | Shel. | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer. | W. J. | B |
| cent. | Pierce. | motor | 1270 | 16 | Zenith | grv. | d-d | 3-Lipe* | selec. | B-Lipe* | amid. | 4 | worm. | Timkn | 8.50 | sprgs. | sprgs. | S-P. | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer. | Waltham | E |
| | | | 1200 | 20 | Zenith | grv. | d-d | Fuller | selec. | Fuller | mtr. | 3 | worm. | Shel. | 7.50 | sprgs. | sprgs. | Drt. | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer. | Ware | A |
| cent. | Pierce. | motor | | | | grv. | w-p | H-S. | ind-e. | | u-jet. | 2 | | | | | | | | | | | | | | Walter | S |
| cent. | Wau. | motor | 1000 | 15 | Stmbg. | grv. | d-d | B-Lipe | selec. | Warner. | amid. | 4 | int-g. | own. | 9.00 | sprgs. | sprgs. | Perf. | ext-d-e. | ext-r-w. | l. | Ross. | ctr. | f-m | M&E. | Watson | N |
| cent. | Wau. | motor | 1100 | 18 | Zenith | grv. | d-d | B-Lipe | selec. | B-Lipe | amid. | 4 | worm. | Timkn | 6.80 | r-rd. | sprgs. | Merl. | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | M&E. | Ward-LaFrance | 2B |
| cent. | Wau. | motor | 1000 | 14 | Zenith | grv. | d-d | B-Lipe | selec. | B-Lipe | amid. | 4 | worm. | Timkn | 7.80 | r-rd. | sprgs. | Merl. | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | M&E. | Ward-LaFrance | 4A |
| cent. | Wau. | motor | 1000 | 14 | Zenith | grv. | d-d | B-Lipe | selec. | B-Lipe | amid. | 4 | worm. | Timkn | 8.80 | r-rd. | sprgs. | Merl. | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | M&E. | Ward-LaFrance | 5A |
| cent. | Wau. | motor | 1000 | 14 | Zenith | grv. | d-d | B-Lipe | selec. | B-Lipe | amid. | 3 | worm. | Dunk. | 6.20 | sprgs. | sprgs. | Shel. | int-r-w. | int-r-w. | l. | Lavn. | ctr. | mtl | M&E. | Watson | |
| cent. | Wau. | motor | 1200 | 25 | John. | grv. | d-d | B-Lipe | selec. | B-Lipe | mtr. | 3 | worm. | Wis. | 9.00 | sprgs. | sprgs. | Shel. | int-r-w. | int-r-w. | l. | Gem. | ctr. | mtl | Spicer. | Watson | N |
| cent. | Pierce. | motor | 1100 | 13 | Stmbg. | grv. | d-d | B-Lipe | selec. | B-Lipe | mtr. | 3 | worm. | Wis. | 7.25 | sprgs. | sprgs. | GCS. | int-r-w. | int-r-w. | l. | Lavn. | ctr. | mtl | Acme. | Western | W1½ |
| suct. | Mnrch. | motor | 1087 | 18 | Stmbg. | vac. | d-d | Fuller | selec. | Fuller | mtr. | 3 | worm. | Wis. | 7.25 | sprgs. | sprgs. | GCS. | int-r-w. | int-r-w. | l. | Lavn. | ctr. | mtl | Acme. | Western | 1½ |
| suct. | Mnrch. | motor | 1087 | 18 | Stmbg. | vac. | d-d | Fuller | selec. | Fuller | mtr. | 3 | worm. | Wis. | 8.25 | sprgs. | sprgs. | GCS. | int-r-w. | int-r-w. | l. | Lavn. | ctr. | mtl | Acme. | Western | W2½ |
| suct. | Mnrch. | motor | 1070 | 16 | Stmbg. | vac. | d-d | Fuller | selec. | Fuller | mtr. | 3 | worm. | Wis. | 8.25 | sprgs. | sprgs. | GCS. | int-r-w. | int-r-w. | l. | Lavn. | ctr. | mtl | Acme. | Western | L2½ |
| suct. | Mnrch. | motor | 1070 | 16 | Stmbg. | vac. | d-d | Fuller | selec. | Fuller | mtr. | 4 | worm. | Wis. | 10.00 | r-rd. | sprgs. | GCS. | int-r-w. | int-r-w. | l. | Lavn. | ctr. | mtl | Acme. | Western | W3½ |
| suct. | Mnrch. | motor | 1000 | 14 | Stmbg. | vac. | d-d | Fuller | selec. | Fuller | mtr. | 4 | worm. | Wis. | | r-rd. | sprgs. | | ext-r-w. | int-r-w. | l. | own. | ctr. | mtl | own. | White | 15 |
| none. | | | 1400 | | own. | grv. | w-p | own. | selec. | own. | amid. | 4 | bevel. | own. | | r-rd. | sprgs. | | ext-r-w. | int-r-w. | l. | own. | ctr. | mtl | own. | White | 20 |
| none. | | | 1400 | | own. | grv. | w-p | own. | selec. | own. | amid. | 4 | bevel. | own. | | r-rd. | sprgs. | | ext-d-e. | int-r-w. | l. | own. | ctr. | mtl | own. | White | 40 |
| cent. | own. | motor | 1600 | 15 | own. | grv. | w-p | own. | selec. | own. | mtr. | 4 | d-rd. | own. | | r-rd. | sprgs. | | ext-d-e. | int-r-w. | l. | own. | ctr. | mtl | own. | White | 45 |
| cent. | own. | motor | 1600 | 15 | own. | vac. | w-p | own. | selec. | own. | mtr. | 4 | d-rd. | own. | | r-rd. | sprgs. | | ext-d-e. | int-r-w. | l. | own. | ctr. | mtl | M&E. | White Hickory | F |
| cent. | Dplx. | motor | 1310 | 22 | Stmbg. | vac. | d-d | Fuller | selec. | Fuller | mtr. | 3 | worm. | Timkn | 6.20 | sprgs. | sprgs. | Shel. | int-r-w. | int-r-w. | l. | Lavn. | ctr. | mtl | M&E. | White Hickory | H |
| cent. | Dplx. | motor | 1190 | 15 | Stmbg. | vac. | d-d | Fuller | selec. | Fuller | mtr. | 3 | worm. | Timkn | 8.50 | sprgs. | sprgs. | Shel. | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Arvac. | White Hickory | V |
| cent. | Dplx. | motor | 1110 | 14 | Stmbg. | vac. | d-d | Fuller | selec. | Fuller | mtr. | 4 | worm. | Timkn | 8.50 | sprgs. | sprgs. | Shel. | int-r-w. | int-r-w. | l. | Lavn. | ctr. | mtl | M&E. | White Hickory | P |
| cent. | Dplx. | motor | | | Stmbg. | vac. | d-d | Fuller | selec. | Fuller | mtr. | 4 | worm. | Timkn | 10.30 | r-rd. | sprgs. | Shel. | int-r-w. | int-r-w. | l. | Lavn. | ctr. | mtl | M&E. | White Hickory | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| none. | | | 1000 | 15 | | grv. | cone. | own. | selec. | | amid. | 4 | worm. | | 7.80 | sprgs. | sprgs. | | int. | int. | r. | | ctr. | fab | own. | Wichita | M |
| none. | | | 1000 | 15 | | grv. | cone. | own. | selec. | | amid. | 4 | worm. | | 8.66 | sprgs. | sprgs. | | int-r-w. | int-r-w. | r. | | ctr. | fab | own. | Wichita | |
| cent. | | motor | 1000 | 15 | | grv. | cone. | own. | selec. | | amid. | 4 | worm. | | 8.66 | sprgs. | sprgs. | | int-r-w. | int-r-w. | r. | | ctr. | fab | own. | Wichita | P |
| cent. | | motor | 1000 | 13 | | grv. | cone. | own. | selec. | | amid. | 4 | worm. | | 8.66 | sprgs. | sprgs. | | int-r-w. | int-r-w. | r. | | ctr. | fab | own. | Wichita | R |
| cent. | | motor | 1000 | 13 | | grv. | cone. | own. | selec. | | amid. | 4 | worm. | | 8.75 | sprgs. | sprgs. | | int-r-w. | int-r-w. | r. | | ctr. | fab | own. | Wichita | RX |
| cent. | | motor | | 13 | | grv. | cone. | | selec. | | amid. | 4 | worm. | | 8.75 | sprgs. | sprgs. | | int-r-w. | int-r-w. | r. | | ctr. | fab | own. | Wichita | O |
| cent. | | motor | | 12 | | grv. | cone. | | selec. | | amid. | 4 | worm. | | 11.75 | sprgs. | sprgs. | | int-r-w. | int-r-w. | r. | | ctr. | fab | own. | Wichita | S |
| cent. | | motor | 1000 | 11 | | grv. | cone. | | selec. | | amid. | 4 | worm. | | 14.00 | sprgs. | sprgs. | | int-r-w. | int-r-w. | r. | | ctr. | fab | own. | Wichita | |
| cent. | | motor | | 10 | | grv. | cone. | | selec. | | amid. | 4 | worm. | | | | | | | | | | | | | | |
| cent. | Dplx. | motor | 1500 | 20 | Stmbg. | grv. | d-d | B-Lipe | selec. | B-Lipe | mtr. | 3 | worm. | Wis. | 7.75 | sprgs. | sprgs. | Shel. | int-r-w. | int-r-w. | l. | Gem. | ctr. | mtl | Spicer. | Wilcox | AA |
| cent. | Dplx. | motor | 1100 | 48 | Stmbg. | grv. | cone. | own. | selec. | own. | amid. | 4 | worm. | Wis. | 9.50 | sprgs. | sprgs. | Shel. | int-f-w. | int-r-w. | l. | own. | ctr. | mtl | Hart. | Wilcox | B |

# Complete Mechanical Specifications of All

| Name and Model | Tons Capacity | Chassis Price | Wheelbase, Inches | FRAME Make | FRAME Material | FRAME Type | TIRES Kind | TIRES Size in Ins. Front | TIRES Size in Ins. Rear | WHEELS Make | WHEELS Type | ENGINE Make | ENGINE No. Cyl. Bore and Stroke N.A.C.C. Hp. | ENGINE Cylinders Cast | COOLING Water Circ. | COOLING RADIATOR CASE Make | COOLING RADIATOR CASE Type | COOLING RADIATOR CORE Make | COOLING RADIATOR CORE Type | IGNITION Type | IGNITION Make | IGNITION Spark Advance | ELEC. SYSTEM Type | ELEC. SYSTEM Make | ELEC. SYSTEM Extra Cost $ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wilcox D | 2½ | $3,300 | 150 | Smh | p-stl | flex | sol* | 36x4 | 36x3½ | Crn | mt | own | 4-4½x5 -29.0 | 2 | cent | own | cst | Lng | fin | sing | Bosch | hand | none | | |
| Wilcox E | 3½ | 4,250 | 162 | Smh | p-stl | flex | sol* | 36x5 | 36x5d | Sth | mt | Buda | 4-4½x6 -32.4 | 4 | cent | own | cst | Lng | fin | sing | Bosch | hand | none | | |
| Wilcox F | 5 | 5,200 | 162 | Smh | p-stl | flex | sol | 36x5 | 40x6d | Sth | mt | Buda | 4-4½x6½-36.1 | 4 | cent | own | cst | Lng | fin | sing | | hand | none | | |
| Winther 751 | ¾ | 1,795 | 135 | own | rol-c | s-flex | pnu | 34x4½ | 35x5 | Auto | wd | H-S | 4-3½x5 -19.6 | 4 | ther | own | cst | Brem | pln | sing | West | hand | s&l-2 | West | none |
| Winther 39 | 1½ | 2,450 | 140 | own | rol-c | s-flex | sol | 34x3½ | 34x5 | own | mt | Wsc | 4-3½x5 -22.5 | 4 | cent | own | cst | Brem | pln | sing | Eismn | hand | s&l-2 | West | 150 |
| Winther 49 | 2 | 3,250 | 147 | own | rol-c | s-flex | sol | 34x4 | 34x4d | own | mt | Wsc | 4-4 x5 -25.6 | 4 | cent | own | cst | Brem | pln | sing | Eismn | hand | s&l-2 | West | 150 |
| Winther 70 | 3½ | 4,200 | 150 | own | rol-c | s-flex | sol | 36x5 | 36x5d | Clrk | mt | Wsc | 4-4 x6 -25.6 | 4 | cent | own | cst | Brem | pln | sing | Eismn | hand | s&l-2 | West | 180 |
| Winther 109 | 5 | 5,250 | 162 | own | rol-c | s-flex | sol | 36x6 | 40x5d | Clrk | mt | Wsc | 4-4½x6 -32.4 | 4 | cent | own | cst | Brem | pln | sing | Eismn | hand | s&l-2 | West | 180 |
| Winther 140 | 7 | 5,900 | 162 | own | rol-c | s-flex | sol | 36x6 | 40x7 | Clrk | mt | Wsc | 4-5 x6 -40.0 | 4 | cent | own | cst | Brem | pln | sing | Eismn | hand | s&l-2 | West | 180 |
| Winther Marwin 430 | 1½ | 2,850 | 132 | own | rol-c | s-flex | sol | 32x4 | 32x4 | own | mt | Wsc | 4-3½x5 -22.5 | 4 | cent | own | cst | Brem | pln | sing | Eismn | hand | s&l-2 | West | 150 |
| Winther Marwin 450 | 1½ | 3,690 | 134 | own | rol-c | s-flex | sol | 34x5 | 36x6 | own | mt | Wsc | 4-4 x5 -25.6 | 2 | cent | own | cst | Brem | pln | sing | Eismn | hand | s&l-2 | West | 150 |
| Witt-Will N | 1½ | 2,250 | 122 | Prsh | p-stl | s-flex | sol* | 36x3½ | 36x5 | Arch | wd | Cont | 4-3½x5 -22.5 | 4 | cent | Brem | cst | Brem | fin | sing | Eismn | auto | none | | |
| Witt-Will P | 2½ | 3,250 | 144 | Prsh | p-stl | s-flex | sol* | 36x3½ | 36x7 | Arch | wd | Cont | 4-4½x5½-27.2 | 4 | cent | Brem | cst | Brem | fin | sing | Eismn | auto | none | | |

## Received Too Late to Classify

| Name and Model | Tons Capacity | Chassis Price | Wheelbase, Inches | FRAME Make | FRAME Material | FRAME Type | TIRES Kind | TIRES Size in Ins. Front | TIRES Size in Ins. Rear | WHEELS Make | WHEELS Type | ENGINE Make | ENGINE No. Cyl. Bore and Stroke N.A.C.C. Hp. | ENGINE Cylinders Cast | COOLING Water Circ. | COOLING RADIATOR CASE Make | COOLING RADIATOR CASE Type | COOLING RADIATOR CORE Make | COOLING RADIATOR CORE Type | IGNITION Type | IGNITION Make | IGNITION Spark Advance | ELEC. SYSTEM Type | ELEC. SYSTEM Make | ELEC. SYSTEM Extra Cost $ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Birch 1 | 1 | $1,485 | 132 | own | p-stl | | sol | 32x3½ | 32x4 | | wd | | 4-3½x5 -19.6 | 4 | ther | | | | | dual | Conn | | s&l | Aut-L | |
| Briscoe 234 | 1 | 1,485 | 121 | P&B | prs | s-flex | pnu | 33x4 | 34x4½ | Hay | wd | own | 4-3½x5 -18.2 | 4 | ther | Pfx | cst | Pfx | zz-t | dual | Conn | hand | sl&i | Aut-L | none |
| Clark Trucktractor TE | 1½ | 1,560 | 78 | own | rol-c | s-flex | sol | 25x10 | 20x7 | Clrk | mt | LeR | 4-3½x4½-15.6 | 4 | ther | Fed | pat | Fed | cel | sing | Eismn | t-p | none | | |
| Clark Trucktractor MAA | 1½ | 1,560 | 78 | own | rol-c | s-flex | sol | 28x3½ | 20x3½ | Clrk | mt | LeR | 4-3½x4½-15.6 | 4 | ther | Fed | pat | Fed | cel | sing | Eismn | t-p | none | | |
| Clark Trucktractor L | 1½ | 1,560 | 78 | own | rol-c | s-flex | sol | 20x3½ | 28x3½d | Clrk | mt | LeR | 4-3½x4½-15.6 | 4 | ther | Fed | pat | Fed | cel | sing | Eismn | t-p | none | | |
| Dart S | 1½ | | 140 | Savg | p-stl | s-flex | sol | 34x3½ | 30x6 | Bim | wd | Buda | 4-4½x5½-22.5 | 4 | ther | own | cst | S-J | cel | sing | Eismn | hand | s&l* | Bijur* | 200 |
| Dart M | 2½ | | 150 | Savg | p-stl | s-flex | sol | 36x4 | 36x7 | Bim | wd | Buda | 4-4½x5½-29.0 | 4 | cent | own | cst | S-J | cel | sing | Eismn | hand | s&l* | Bijur* | 200 |
| Dart W | 3½ | | 160 | Savg | p-stl | s-flex | sol | 36x5 | 36x10 | Bim | wd | Buda | 4-4½x6 -32.4 | 4 | cent | own | cst | S-J | cel | sing | Eismn | hand | s&l* | Bijur* | 200 |
| Denby 12 | 1 | 2,400 | 124 | Drt | p-stl | | pnu | 35x5 | 36x6 | Hay | wd | Cont | 4-3½x5 -22.5 | 4 | ther | Lng | fin | | | sing | Eismn | | | | |
| Denby 33 | 1½ | 2,300 | 136 | | p-stl | | pnu | 35x5 | 38x7 | | wd | | 4-3½x5 -22.5 | 4 | ther | | | | | sing | Eismn | | | | |
| Denby 134 | 2 | 2,800 | 144 | Drt | p-stl | | sol | 36x3½ | 36x6 | Hay | wd | Cont | 4-3½x5 -22.5 | 4 | ther | Lng | fin | | | sing | Eismn | | | | |
| Denby 25 | 3 | 3,600 | 149½ | Drt | p-stl | | sol | 36x4 | 36x7 | Sth | mt | Cont | 4-4½x5½-27.2 | 4 | cent | Lng | fin | | | sing | Eismn | | | | |
| Denby 27 | 4 | 4,600 | 170 | Drt | p-stl | | sol | 36x5 | 36x5d | Sth | mt | Cont | 4-4½x5½-32.4 | 2 | cent | Lng | fin | | | sing | Eismn | | | | |
| Denby 210 | 5 | 5,350 | 170 | Drt | p-stl | | sol | 36x6 | 40x6d | Clrk | mt | Cont | 4-4½x5½-32.4 | 2 | cent | Lng | fin | | | sing | Eismn | | | | |
| Patriot Revere | ¾ | 1,785 | 129 | | p-stl | | pnu | 35x5 | 35x5 | | wd | Cont | 4-3½x5 -22.5 | 4 | ther | | | | | | | | s&l | A-Knt | |
| Patriot Lincoln | 1½ | 2,450 | 140 | | p-stl | | sol* | 34x3½ | 34x5 | | wd | Hink | 4-4 x5½-25.6 | | cent | | fin | | cst | sing | | | s&l | | |
| Patriot Washington | 2½ | 3,450 | 156 | | p-stl | | sol* | 36x4 | 36x7 | | wd | Hink | 4-4½x5½-32.5 | | cent | | fin | | cst | sing | | | s&l | | |
| Schwartz A | 1 | | 130 | P&B | p-stl | s-flex | pnu | 33x4½ | 33x4½ | Sch | wd | Lyc | 4-3½x5 -19.6 | 2 | ther | own | cst | | cel | sing | West | hand | sl&i | G&D | none |
| Schwartz BW | 1½ | 2,600 | 146 | P&B | p-stl | s-flex | sol* | 34x3½ | 34x7 | Sch | wd | Buda | 4-3½x4½-22.5 | 2 | cent | own | cst | Fed | cel | sing | Bosch | hand | lghtg | G&D | none |
| Schwartz CWS | 2½ | 3,200 | 150 | P&B | p-stl | s-flex | sol | 36x4 | 36x8 | Sch | wd | Buda | 4-4½x5½-29.0 | 2 | cent | own | cst | Fed | cel | sing | Bosch | hand | lghtg | G&D | none |
| Schwartz DW | 5 | 4,900 | 170 | P&B | p-stl | s-flex | sol | 36x6 | 40x12 | Sth | mt | Buda | 4-4½x6 -32.4 | 2 | cent | own | cst | Fed | cel | sing | Bosch | hand | lghtg | G&D | none |
| Towmotor Tractor A | | 2,150 | 70 | P&B | p-stl | rigid | sol | 22x3½ | 22x3½d | West | mt | Wei | 4-3½x5½-19.6 | 4 | cent | own | cst | S-W | p-t | sing | Delco | hand | sl&i | Delco | none |
| Traylor E | 4 | | 168 | | p-stl | rigid | sol | 36x5 | 40x10d | | mt | Buda | 4-4½x6 -32.4 | 4 | cent | G&O | fin | G&O | cst | sing | Spltf | auto | | | |
| Traylor B | 1½ | | 132 | | p-stl | rigid | sol | 34x3½ | 34x5 | Sch | wd | Buda | 4-3½x5½-22.5 | 4 | ther | G&O | | G&O | cst | sing | Spltf | auto | | | |
| Traylor C | 2 | | 138 | | p-stl | rigid | sol | 36x4 | 36x7 | Sch | wd | Buda | 4-4 x5½-25.6 | 4 | cent | G&O | fin | G&O | cst | sing | Spltf | auto | | | |
| Traylor D | 3 | | 150 | | p-stl | rigid | sol | 36x4 | 36x5* | Sch | wd | Buda | 4-4½x5½-29.0 | 4 | cent | G&O | fin | G&O | cst | sing | Spltf | auto | | | |

## Steam Trucks

| Name and Model | Capacity in Pounds | Price of Chassis | Wheelbase in Inches | FRAME Material | FRAME Construction | TIRES Kind | TIRES SIZE IN INCHES Front | TIRES SIZE IN INCHES Rear | Wheels | BOILER Location | BOILER Type | BOILER Heating Surface in Sq. in. | BOILER Horsepower | BOILER BURNER Type | BOILER BURNER Regulation | BOILER PRESSURE Normal in Lbs. | BOILER PRESSURE Maximum in Lbs. | WATER Water Capacity in Gal. | WATER CONDENSER Type | WATER CONDENSER Circulation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Steam-O-Truck | 10,000 | $6,000 | 157 | I-beam | | pneu | 36x6 | 42x9 | c-st | under hood | Wat-tube | | 40 | atomis | auto | | 700 | 40 | flat | natural |

### ABBREVIATIONS—Types of Construction

*—other options
**amid**—amidships
**auto**—automatic
**bevl**—bevel
**cel**—cellular
**cent**—centrifugal
**chn**—chain
**cst**—cast
**ctr**—center
**cylinders cast,** 2 in pairs
**cylinders cast,** 4 in block
**cylinders cast,** 3 in threes
**cylinders cast,** 1 singly
**cyl-ends**—cylinder-ends
**d**—dual
**d-d**—dry-disk
**d-p**—dry-plate
**dplx**—from both motor & driveshaft
**d-rd**—double reduction
**d-s**—drive-shaft
**elec**—electric
**ext-d-s**—external drive-shaft
**ext-f-w**—external front wheel
**ext-g**—external gear
**ext-jst**—external jackshaft
**ext-r-w**—external rear wheel
**fab**—fabric
**fin**—finned tube
**flex**—flexible
**f-m**—fabric & metal
**fric**—friction
**g-p**—gear pump
**grv**—gravity
**gset**—from gearset
**hyd**—hydraulic
**ind-c**—individual clutch
**int-g**—internal gear
**int-g-4**—internal gear drive on 4 wh cls
**int-r-w**—internal rear wheel
**jst**—unit with jackshaft
**l**—left
**l-b**—loose ball
**lghtg**—lighting only
**mtr**—unit with motor
**mt**—metal (wheels)
**mtl**—metal (universal joint)
**opt**—optional
**pist**—piston pump
**plan**—planetary
**pin**—plain tube
**pnu**—pneumatic
**pres**—pressure
**prog**—progressive
**prs**—pressed steel
**p&s**—pneumatics in front solids in rear
**p-stl**—pressed steel
**r**—right
**r&c**—right & center
**r-rd**—radius rods
**rol-c**—rolled channel
**rol-i**—rolled I-beam
**selec**—selective
**s-flex**—semi-flexible
**s-fr**—sub-frame
**sht**—sheet
**s&l**—starting & lighting
**sl&i-2**—starting, lighting & ignition, 2 unit
**sol**—solid
**sprgs**—springs
**sq-t**—square tube
**start**—starting only
**suct**—suction
**t-arm**—torque arm
**ther**—thermo-syphon
**t-p**—two-point
**t-t**—torsion tube
**vac**—vacuum
**wat-tube**—water tube
**wd**—wood
**w-d**—multiple disk in oil
**w-p**—plate in oil
**wr**—wire
**zz-t**—zig-zag tube

### ABBREVIATIONS—Makers of Parts.

*Other Options
**A-Knt**—Atwater-Kent
**Al-Ch**—Allis-Chalmers
**Amer**—American Magneto Co.
**Arch**—Archibald
**Aut-L**—Auto-Lite
**Auto**—Auto Wheel Co.
**B-Beck**—Borg & Beck
**BCA**—Bearings Co. of Am.
**Berlg**—Berling
**Bim**—Bimel
**Bl&Fl**—Blood & Flexite
**B-Lipe**—Brown-Lipe
**Blood**—Blood Bros.
**Bl&P**—Blood & Peters
**Bl&Sp**—Blood & Spicer
**B-M**—Bucyrus Mach. Tool
**Brem**—Bremer
**Cart**—Carter carburetor
**Cas**—G. M. Castle
**CAS**—C. A. S. products
**C-D**—Curran-Detroit Radiator Co.
**Chgo**—Chicago Mfg. Co.
**Chic**—Chicago Standard
**Chmp**—Champion Auto Spring Co.
**Clrk**—Clark Equip. Co.
**Cocn**—Corcoran Radiator Co.
**Col**—Columbia Axle Co.
**Cont**—Continental motor
**Conn**—Connecticut
**Crn**—Crane & MacMahon
**Crn-S**—Crane & MacMahon and Standard
**Day**—Dayton wheel
**Detlaf**—Detlaff
**Det**—Detroit Wheel & Rim
**Detrt**—Detroit G. & M.
**Ditl**—Disteel Wheel Co.
**Ditw**—Ditwiler Mfg. Co.
**Dnet**—Dyneto

# Gasoline Motor Trucks for 1921—Concluded

| ENGINE | | | | | | | | | | TRANSMISSION | | | | | | | | | BRAKES | | CONTROL | | | UNIVERSALS | | Name and Model |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GOVERNOR | | | SPEED | | FUEL SYS. | | CLUTCH | | GEARSET | | | | FINAL DRIVE | | | | | Springs Make | | | STEER'G GEAR | | | | | |
| Type | Make | Drive | Motor in r.p.m. | Truck in m.p.h. | Carbureter Make | Fuel Feed | Type | Make | Type | Make | Placed | Speeds | Type | Rear Axle Make | Total Gear Reduction | Propulsion Taken By | Torque Taken By | | Foot | Hand | Placed | Make | Levers | Type | Make | |
| cent. | Dplx. | motor | $1100 | 16 | Stmbg. | grv. | cone. | own. | selec. | own. | amid. | 4 | worm. | Wis. | 8.97 | sprgs. | sprgs. | Shel. | int-r-w. | int-r-w. | l. | own. | ctr. | mtl | Hart. | Wilcox D |
| cent. | Dplx. | motor | 1000 | 12 | Stmbg. | grv. | cone. | own. | selec. | own. | amid. | 4 | worm. | Wis. | | r-rd. | sprgs. | Shel. | int-r-w. | int-r-w. | l. | own. | ctr. | mtl | Hart. | Wilcox E |
| cent. | Dplx. | motor | 200 | 10 | Stmbg. | grv. | cone. | own. | selec. | own. | amid. | 4 | worm. | Wis. | | r-rd. | sprgs. | Shel. | int-r-w. | int-r-w. | l. | own. | ctr. | mtl | Hart. | Wilcox F |
| none. | | | 2500 | 40 | Stmbg. | vac. | d-d. | Warner. | mtr. | | | 3 | int-g. | Torbn. | 6.60 | sprgs. | sprgs. | Drt. | ext-r-w. | ext-d-s. | l. | Lavn. | ctr. | mtl | Pet. | Winther 751 |
| none. | | | 1600 | 23 | Stmbg. | grv. | d-d. | Fuller. | selec. | Fuller. | mtr. | 3 | int-g. | Clrk. | 7.00 | sprgs. | sprgs. | Drt. | ext-r-w. | ext-d-s. | l. | Lavn. | ctr. | mtl | Arvac. | Winther 39 |
| none. | | | 1500 | 17 | Mast. | vac. | d-p. | B-Beck. | selec. | B-Lipe. | amid. | 4 | int-g. | Clrk. | 9.00 | sprgs. | sprgs. | Mth. | ext-r-w. | int-r-w. | r. | Ross. | ctr. | mtl | Blood. | Winther 49 |
| none. | | | 1300 | 16 | Mast. | vac. | d-p. | B-Beck. | selec. | B-Lipe. | amid. | 4 | int-g. | Clrk. | 10.00 | sprgs. | sprgs. | Mth. | ext-r-w. | int-r-w. | r. | Ross. | ctr. | mtl | Blood. | Winther 70 |
| cent. | Dplx. | motor. | 1100 | 12 | Mast. | vac. | d-p. | B-Beck. | selec. | B-Lipe. | amid. | 4 | int-g. | Clrk. | 12.50 | sprgs. | sprgs. | Mth. | int-r-w. | int-r-w. | r. | Ross. | ctr. | mtl | Blood. | Winther 109 |
| cent. | Dplx. | motor. | 925 | 10 | Mast. | vac. | d-p. | B-Beck. | selec. | B-Lipe. | amid. | 4 | int-g. | Crlk. | 12.50 | sprgs. | sprgs. | Mth. | int-r-w. | int-r-w. | r. | Ross. | ctr. | mtl | Blood. | Winther 140 |
| none. | | | 1600 | 17 | Stmbg. | grv. | d-d. | Fuller. | selec. | Fuller. | mtr. | 3 | int-g. | Clrk. | 9.00 | sprgs. | sprgs. | Drt. | ext-r-w. | ext-d-s. | l. | Lavn. | ctr. | mtl | Pet. | Winther-Marwin 430 |
| none. | | | 1500 | 16 | Stmbg. | grv. | d-d. | Fuller. | selec. | Fuller. | mtr. | 3 | int-g. | Clrk. | 10.40 | sprgs. | sprgs. | Drt. | ext-r-w. | ext-d-s. | l. | Lavn. | ctr. | mtl | Pet. | Winther-Marwin 450 |
| cent. | Pierce. | motor. | 1500 | 25 | Zenith. | grv. | d-d. | B-Lipe. | selec. | B-Lipe. | mtr. | 3 | worm. | Timkn | 7.00 | sprgs. | sprgs. | Del. | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer. | Witt-Will N |
| cent. | Pierce. | motor. | 1500 | 20 | Zenith. | grv. | d-d. | B-Lipe. | selec. | B-Lipe. | mtr. | 3 | worm. | Timkn | 7.75 | sprgs. | sprgs. | Del. | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer. | Witt-Will P |

## Received Too Late to Classify

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Stmbg. | grv. | d-d. | Fuller. | selec. | Fuller. | | | int-g. | Clrk. | | | | | | | | | | | | Birch |
| none. | | | 2400 | 29 | Buick. | grv. | cone. | own. | selec. | own. | mtr. | 3 | int-g. | Russl. | 8.20 | sprgs. | sprgs. | Aloy. | int-r-w. | int-r-w. | l. | Lavn. | ctr. | mtl | Unvsl. | Briscoe T34 |
| cent. | LeR. | motor. | 1500 | 12 | | grv. | d-d. | Fuller. | selec. | Fuller. | mtr. | 3 | int-g. | Clrk. | 11.77 | sprgs. | sprgs. | Mth. | | ext-d-s. | r. | Ross. | ctr. | mtl | Acme. | Clark Trucktractor TB |
| cent. | LeR. | motor. | 1500 | 12 | Stmbg. | grv. | d-d. | Fuller. | selec. | Fuller. | mtr. | 3 | int-g. | Clrk. | 11.77 | sprgs. | sprgs. | Mth. | | ext-d-s. | r. | Ross. | ctr. | mtl | Acme. | Clark Trucktractor MAA |
| cent. | LeR. | motor. | 1500 | 12 | Stmbg. | grv. | d-d. | Fuller. | selec. | Fuller. | mtr. | 3 | int-g. | Clrk. | 11.77 | sprgs. | sprgs. | Mth. | | ext-d-s. | r. | Ross. | ctr. | mtl | Acme. | Clark Trucktractor L |
| none. | none. | | 1200 | 25 | Zenith. | vac. | d-d. | Fuller. | selec. | Fuller. | mtr. | 3 | worm. | Timkn | 7.00 | sprgs. | sprgs. | S-P. | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer. | Dart S |
| cent. | Pierce. | motor. | 1200 | 15 | Zenith. | grv. | d-d. | Fuller. | selec. | Fuller. | mtr. | 4 | worm. | Timkn | 8.50 | sprgs. | sprgs. | S-P. | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer. | Dart M |
| cent. | Pierce. | motor. | 1200 | 10 | Zenith. | grv. | d-d. | Fuller. | selec. | Fuller. | amid. | 4 | worm. | Timkn | 8.75 | sprgs. | sprgs. | S-P. | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | Spicer. | Dart W |
| suct. | Mnrch. | motor. | 1300 | | Stmbg. | grv. | d-d. | Fuller. | selec. | Fuller. | mtr. | 3 | int-g. | Russl. | 8.20 | sprgs. | sprgs. | Dtr. | ext-r-w. | int-r-w. | | Gem. | | | Unvsl. | Denby 12 |
| suct. | Mnrch. | motor. | | 25 | Stmbg. | | d-p. | | | | | 3 | int-g. | | | sprgs. | sprgs. | | ext-r-w. | int-r-w. | l. | | | | | Denby 33 |
| suct. | Mnrch. | motor. | 1275 | | Stmbg. | grv. | d-d. | Fuller. | selec. | Fuller. | mtr. | 4 | int-g. | Russl. | 8.85 | sprgs. | sprgs. | Dtr. | ext-r-w. | int-r-w. | | Gem. | | | Unvsl. | Denby 134 |
| suct. | Mnrch. | motor. | 1275 | | Stmbg. | grv. | d-d. | Fuller. | selec. | Fuller. | mtr. | 4 | int-g. | Russl. | 9.45 | sprgs. | sprgs. | Dtr. | ext-r-w. | int-r-w. | | Gem. | | | Unvsl. | Denby 25 |
| cent. | Dplx. | Dplx. | 1050 | | Stmbg. | grv. | d-d. | Fuller. | selec. | Fuller. | amid. | 4 | int-g. | Clrk. | 10.00 | sprgs. | sprgs. | Dtr. | ext-d-s. | int-r-w. | | Gem. | | | Unvsl. | Denby 27 |
| cent. | Dplx. | Dplx. | 1050 | | Stmbg. | grv. | d-d. | Fuller. | selec. | Warn. | amid. | 4 | int-g. | Clrk. | 12.55 | sprgsl | sprgs. | Dtr. | ext-d-s. | int-r-w. | | Gem. | | | Pet. | Denby 210 |
| | | | | | Stmbg. | | d-d | | selec. | | amid. | 3 | worm | | | | | | | | | | | | Therm. | Patriot Revere |
| | | | | | Stmbg. | | d-p. | | selec. | | amid. | 4 | worm. | | | | | | | | | | | | Therm. | Patriot Lincoln |
| | | | | | Stmbg. | | d-p. | | selec. | | amid. | 4 | worm. | | | | | | | | | | | | Therm. | Patriot Washington |
| none. | none. | none. | 2000 | 40 | Stmbg. | vac. | d-d. | M&E. | selec. | Dund. | mtr. | 3 | bevl. | Shel. | 6.14 | sprgs. | sprgs. | | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | M&E. | Schwartz A |
| suct. | Mnrch. | motor. | 1200 | 18 | Stmbg. | grv. | d-d. | M&E. | selec. | Dund. | mtr. | 3 | worm. | Shel. | 6.50 | sprgs. | sprgs. | Rowl. | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | M&E. | Schwartz BW |
| suct. | Mnrch. | motor. | 1100 | 16 | Stmbg. | grv. | d-d. | M&E. | selec. | Dund. | mtr. | 3 | worm. | Shel. | 8.75 | sprgs. | sprgs. | Rowl. | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | M&E. | Schwartz CWS |
| | Simp. | motor. | 1200 | 14 | Stmbg. | grv. | d-d. | Fuller. | selec. | Fuller. | amid. | 4 | worm. | Shel. | 12.25 | sprgs. | sprgs. | Rowl. | int-r-w. | int-r-w. | l. | Ross. | ctr. | mtl | M&E. | Schwartz DW |
| none. | | | 1500 | 12 | Schblr. | grv. | d-p. | B-Beck. | selec. | G-Lees. | mtr. | 3 | int-g. | Torbn. | 8.00 | frame | frame | S-P. | int-r-w. | int-r-w. | l. | Ross. | ctr. | fab | Snead. | Towmotor Tractor A |
| | | | | | Zenith. | | d-d | | selec. | | | 4 | worm. | Shel. | | | | | int-r-w. | | | Ross. | | | | Traylar E |
| cent. | Pierce. | motor. | | | Zenith. | | d-d | | selec. | | | 3 | worm. | Shel. | | | | | int-r-w. | | l. | Ross. | | | | Traylar B |
| cent. | Pierce. | motor. | | | Zenith. | | d-d | | selec. | | | 3 | worm. | Shel. | | | | | int-r-w. | | l. | Ross. | | | | Traylar C |
| cent. | Pierce. | motor. | | | Zenith. | | d-d | | selec. | | | 4 | worm. | Shel. | | | | | int-r-w. | | l. | Ross. | | | | Traylar D |

## Steam Trucks

| SYSTEM | | | ENGINE | | | | | | TRANSMISSION | | | | | CONTROL | | | | | Name and Model |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Feed Pump Type | Feed Control | Location | No. of Cylinders | Cylinders Cast | Valve Location | Valve Action | Valve Stroke | Reverses By | Final Drive | Gear Ratio | Axle Type | Propulsion Taken By | Torque Taken By | Throttle | Hook-up | Reverse | Steering Wheel Location | Brake Lever Location | |
| plunger. | auto. | rear axle. | 4 | 2 | cyl-ends | Stokesbary | adjustable. | lever. | Spur-gear. | 3.00-1 | floating | springs. | | lever. | | lever. | right* | center. | Steam-O-Truck |

**ABBREVIATIONS—Makers of Parts—(Con)—**

**Dplx**—Duplex governor
**Drt**—Detroit Pressed Steel Co.
**Dtr**—Detroit Products
**Dtrt**—Detroit lubricator
**Dun**—Dunbar Mfg. Co.
**Dund**—Dundore Mfg. Co.
**Dunk**—Dunkirk Axle Corp.
**Dur**—Durston Gear Corp.
**Elyr**—Elyria Steel Products Co.
**E&M**—English & Mersick
**E&O**—Eberly & Orris
**Elsmn**—Eisemann
**Ens**—Ensign carburetor
**Eric**—Ericsson Mfg. Co.
**Eurk**—Eureka
**Fed**—Fedders
**GB&S**—Golden, Belknap & Schwartz
**G&D**—Gray & Davis
**G&O**—G & O Mfg. Co.
**GCS**—Garden City springs
**Gem**—Gemmer
**G-Lees**—Grant-Lees
**Godn**—Gordan Radiator Co.
**Har**—Harrison
**Hart**—Hartford
**Harv**—Harvey
**Hay**—Hayes Wheel Co.
**H&D**—Hoopes Bros. & Darlington
**H&K**—Hale & Kilburn
**Her**—Hercules
**Hghy**—Highway Engine Co.
**Hink**—Hinkley
**H-Shaw**—Hele-Shaw
**H-S**—Herschell-Spillman
**Hyd**—Hydraulic
**Idl**—Ideal
**Int**—Interstate
**Iron**—Iron City
**Jacox**—Jackson-Church-Wilcox
**Jck**—Jackson Auto Rad.
**Jmst**—Jamestown Car Parts
**Jns**—Phineas Jones & Co.
**John**—Johnson Co.
**K&B**—Kinsler & Bennet
**Kel**—Kelsey Wheel Co.
**Kug**—Kueng Radiator Co.
**K.W.**—K.W. Ignition Co.
**Laur**—Lauraine Magneto
**Lavn**—Lavine
**LeR**—Le Roi engine
**Lght**—Light Mfg. Co.
**Liggt**—Liggett Spring & Axle Co.
**L-N**—Leece-Neville Co.
**Lng**—Long
**Lvgn**—Livingston
**Lyc**—Lycoming
**Marm**—Maremont Mfg. Co.
**McCn**—McCanna
**M&E**—Merchant & Evans
**McC**—McCord
**Mech**—Mechanics Machine
**Merl**—Merrill Spring Co.
**Mnrch**—Monarch
**Mod**—Modine Mfg. Co.
**Morg**—Morgan Mfg. Co.
**Math**—Mather
**Munc**—Muncie
**MWC**—Motor Wheel Corp.
**Natl**—National Can Co.
**Natn**—National Axle Co.
**N-E**—North East
**Own&Sp**—Own & Spicer
**P&B**—Parish & Bingham
**Pfx**—Perfex radiator
**Pgh**—Pittsburgh Pressed Steel
**Phro**—Pharo Mfg. Co.
**Pitt**—Pittsburgh Model Engine Co.
**Prsh**—Parish Mfg. Co.
**Prud**—Prudden
**Rayfld**—Rayfield
**Rowl**—Wm. H. Rowland
**Roy**—Royer Wheel Co.
**R-T**—Rome-Turney
**Russl**—Russel Axle Co.
**Sag**—Saginaw
**Sal**—Salisbury
**Savg**—Savage Arms
**Sch**—Schwarz Wheel Co.
**Schblr**—Schebler
**Shar**—Sharon Pressed Steel Co.
**Shel**—Sheldon
**Sim**—Simms Magneto Co.
**Simp**—Simplex
**S-K**—Slick Knox Steel Co.
**Smh**—A. O. Smith
**Sn & Ac**—Snead & Acme
**Sn&Sp**—Snead & Spicer
**S-P**—Standard Parts Co.
**Sp&Fl**—Spicer & Flexite
**Spltf**—Splitdorf
**Sp-P**—Spring Perch Co.
**Sp&Pet**—Spicer & Peters
**Stan**—Standard radiator
**Stand**—Standard Steel Spring Co.
**Sterl**—Sterling bearings
**Stmbg**—Stromberg
**Stn**—Standard Wheel Co.
**Sth**—Smith steel wheel
**S-W**—Sparks-Withington
**Th&Ba**—Thermoid & Baker
**Th&Bl**—Thermoid & Blood
**Therm**—Thermoid
**Th—Sp**—Thermoid & Spicer
**Till**—Tillotson
**Timkn**—Timken
**Torbn**—Torbensen
**Trav**—Traverse City Iron Works
**T-S**—Turner-Seymour
**Tuth**—Tuthill
**Unv**—Universal
**Unvsl**—Universal Mach.
**U.P.**—U. P. Products Co.
**U.S.**—U. S. Spring Co.
**Wab**—Wabash Radiator Co.
**Warn**—Warner
**Wau**—Waukesha
**Way**—Wayne Wheel Co.
**Wed**—Weidley
**West**—Westinghouse
**We-W**—Western Wheel Co.
**Wis**—Wisconsin Parts
**Wol**—Wohlrab
**W-S**—West Steel Castings Co.
**Wsc**—Wisconsin engine
**Yng**—Youngstown Pressed Steel Co.

# Detailed Technical Specifications of

## Tabulated Data on 76 Different Makes of American Gasoline Makes of Principal Parts, Including Engine, Governor, Lubricator,

| Name and Model | Price | Plow Capacity | H.P. Rating | Engine Make | No. of Cylinders Bore & Stroke | Engine Type | Cylinders Cast | R.P.M. | Make of Governor | Type of Governor | Engine Weight | Lubrication System | Mechanical Lubricator Make | Oil Pump Type | Ignition System | Impulse Starter | Carburetor Make | Water Injected with Fuel | Fuel Feed | Fuel Tanks and Capacities | Air Cleaner Make |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Allis-Chalmers 6-12 | | 1 | 6-12 | Le Roi | 4-3½x4½ | L. | Block | 1000 | Own | Cent. | 360 | Sp-Pr. | | Plunger | Eisemann | No. | Kingston | No. | Grv. | 3½G | Toro |
| Allis-Chalmers 18-30 | | 4 | 18-30 | Own | 4-4¾x6½ | I. | Block | 830 | Own | Cent. | 1600 | Pressure | | | Eisemann | Yes | Kingston | Yes | Grv. | 7½G-22½K | Toro |
| Andrews Kinkade D | $2,500 | 4 | 18-36 | Climax | 4-5 x6½ | L. | Pairs | 900 | Climax | Cent. | 1100 | Pressure | Climax | Vane | Splitdorf | Yes | Stromberg | Yes | Grv. | 5G-20K | Spirex |
| Appleton 12-20 | 1,650 | 3 | 12-30 | Buda | 4-4¼x5½ | L. | Block | 1000 | Pickering | Cent. | 750 | Pressure | | Gear | Bosch | | Schebler | Yes | Grv. | G-K | Bennett |
| Aultman-Taylor 30-60 | | 8 | 30-60 | Own | 4-7 x9 | I. | Pairs | 500 | Own | Cent. | | | Detroit | Ind. | Eisemann | No. | Kingston | Yes | Grv. | 20G-60K | |
| Aultman-Taylor 22-45 | | 6 | 22-45 | Own | 4-5½x8 | I. | Pairs | 600 | Own | Cent. | | | Detroit | Ind. | Eisemann | No. | Kingston | Yes | Grv. | 20-G35K | |
| Aultman-Taylor 15-30 | | 4 | 15-30 | Climax | 4-5 x6½ | L. | Pairs | 800 | Climax | Cent. | | Circ. | | Vane | Eisemann | Yes | Kingston | No. | Grv. | 6G-16K | Bennett |
| Automotive B-3 | 1,785 | 3 | 12-24 | Hercules | 4-4 x5½ | L. | Block | 1000 | Pierce | Cent. | 850 | Pressure | | Gear | Eisemann | Yes | Kingston | No. | Yes. | 18G | Bennett |
| Avery Cultivator C | | | | Own | 6-3 x4 | L. | Block | 1250 | Own | | 470 | Circ-Sp. | | | K-W | Yes | Kingston | No. | Grv. | 10G | Bennett |
| Avery Single Row Colt | | | 5-10 | Own | 4-3 x4 | L. | Block | 1250 | Own | | 300 | Circ-Sp. | | | K-W | Yes | Kingston | No. | Grv. | 10G | Bennett |
| Avery B | | 2 | 5-10 | Own | 4-3 x4 | L. | Block | 1250 | Own | | 300 | Circ-Sp. | | | K-W | Yes | Kingston | No. | Grv. | 11G | Bennett |
| Avery C | | | | Own | 6-3 x4 | L. | Block | 1250 | Own | | 470 | Circ-Sp. | | | K-W | Yes | Kingston | No. | Grv. | 10G | Bennett |
| Avery 12-25 | | 4 | 12-25 | Own | 2-6½x7 | I. | Singly | 600 | Own | | 1350 | Circ-Sp. | | | K-W | Yes | Kingston | Yes | Grv. | 6¾G-14K | Bennett |
| Avery 14-28 | | 4 | 14-28 | Own | 4-4½x7 | I. | Block | 700 | Own | | 1620 | Circ-Sp. | | | K-W | Yes | Kingston | Yes | Grv. | 3½G-20K | Bennett |
| Avery 18-36 | | 5 | 18-36 | Own | 4-5½x6 | I. | Block | 650 | Own | | 2150 | Circ-Sp. | | | K-W | Yes | Kingston | Yes | Grv. | 6G-27K | Bennett |
| Avery 25-50 | | 6 | 25-50 | Own | 4-6½x7 | I. | Block | 600 | Own | | 2200 | Circ-Sp. | | | K-W | Yes | Kingston | Yes | Grv. | 6G-27K | Bennett |
| Avery 45-65 | | 10 | 45-65 | Own | 4-7¾x8 | I. | Block | 600 | Own | | 3300 | Circ-Sp. | | | K-W | Yes | Kingston | Yes | Grv. | 6¾G-44K | Bennett |
| Avery 8-16 | | 2-3 | 8-16 | Own | 2-6½x6 | I. | Singly | 600 | Own | Throt. | 925 | Circ-Sp. | | Gear | K-W | Yes | Kingston | Yes | Grv. | 2G-12K | Bennett |
| Bates D | | 3 | 15-25 | Own | 4-4¼x6 | I. | Block | 900 | Own | Cent. | 1000 | Pressure | Own | Gear | Splitdorf | Yes | Own | Yes | Grv. | 1G-15K | Own |
| Beeman G | 340 | ½ | 2-4 | Own | 1-3½x4½ | L. | Single | 800 | None | | 600 | Splash | | | Heinze | No. | J & L | Yes | Grv. | 1½G | Donaldson |
| Best Thirty | 3,250 | 4 | 20-30 | Own | 4-4¾x6½ | | Singly | 800 | Own | | | Circ-Sp. | | Gear | Berling | Yes | Ensign | | Vac. | 40G | Pomona |
| Best Sixty | 5,750 | 10 | 35-60 | Own | 4-6½x8 | | Singly | 950 | Own | | | Circ-Sp. | | Gear | Bosch | Yes | Ensign | | Vac. | 65G | Pomona |
| Case 10-18 | | 2 | 10-18 | Own | 4-3¾x5 | I. | Block | 1050 | Own | | | Circ-Sp. | | Plunger | | Yes | Kingston | No. | Grv. | 2G-10½K | Own |
| Case 15-27 | | 3 | 15-27 | Own | 4-4½x6 | I. | Block | 900 | Own | | | Circ-Sp. | | Plunger | | Yes | Kingston | No. | Grv. | 2¾G-20K | Own |
| Case 22-40 | | 5 | 22-40 | Own | 4-5½x6¾ | I. | Pairs | | Own | | | Non-Circ | Detroit | | Bosch | Yes | Kingston | Yes | Grv. | 3¾G-26½ | K Own |
| Caterpillar T-11 | | 4 | 25- | Own | 4-4¾x6 | I. | Pairs | 1050 | Own | Cent. | 1100 | Pressure | | Gear | Eisemann | Yes | Schebler | No. | Vac. | 46G | Donaldson |
| Caterpillar T-16 | | 6 | 40- | Own | 4-6½x7 | I. | Singly | 700 | Own | Cent | 2300 | Pressure | | Gear | K-W | Yes | Kingston | No. | Vac. | 46G | Donaldson |
| Chase 12-25 | | 2 | 12-25 | Buda | 4-4¼x5½ | L. | Block | 1000 | Pierce | Cent. | 800 | Pressure | | Gear | Splitdorf | Yes | Kingston | No. | Grv. | 2G-15K | R. & W |
| Cletrac W | | 3 | 12-20 | Own | 4-4 x5½ | I. | Block | 1265 | Own | Cent. | 650 | Circ-Sp. | None | Gear | Teagle | Yes | Kingston | No. | Grv. | ¾G-13K | Own |
| DePue 20-30 | 2,500 | 4 | 20-30 | Buda | 4-4½x6 | | | 800 | | Cent. | 925 | Pressure | | Gear | Bosch | Yes | Stromberg | No. | Grv. | 14G | Cyclone |
| Emerson-Brantingham 12-25 | | 3 | 12-20 | Own | 4-4¾x5 | L. | Pairs | 900 | Own | Cent. | 1000 | Splash | | Plunger | K-W | Yes | Stromberg | Yes | Grv. | 4G-20K | Bennet |
| Farm Horse "B" | 1,885 | 3 | 18-30 | Climax | 4-5 x6½ | L. | Pairs | 800 | | | | | | | Splitdorf | Yes | Bennett | Yes | Grv. | 5G-18K | |
| Farquhar 15-25 | | 3 | 15-25 | Buda | 4-4½x6 | L. | Block | 900 | Pierce | Cent. | 1100 | Circ | Buda | Gear | K-W | Yes | Kingston | No. | Grv. | 5G-25K | R. W |
| Farquhar 25-50 | | 6 | 25-50 | Own | 4-7 x8 | I. | Pairs | 550 | Own | Throt. | 2500 | Circ-Sp. | Detroit | Gear | K-W | Yes | Kingston | No. | Grv. | 30G-30K | |
| Farquhar 18-35 | | 4 | 18-35 | Own | 4-6 x8 | I. | Pairs | 550 | Own | Throt. | 2000 | Circ-Sp. | Detroit | Gear | K-W | Yes | Kingston | No. | Grv. | 30G-30K | |
| Fitch | | 3 | 20-35 | Climax | 4-5 x6½ | L. | Pairs | 800 | Climax | Cent | 1200 | Pressure | | Special | Climax | Yes | Ensign | No. | Grv. | 2G-28K | Bennett |
| Fordson | 790 | 2 | -18 | Own | 4-4 x5 | L. | Block | 1000 | | | 760 | Circ | | F. Wheel | Own | No. | Holley | Yes | Grv. | 1G-21K | Own |
| Frick C | | 3 | 15-28 | Beaver | 4-4¾x6 | I. | Block | 900 | Taco | Cent | 1000 | Circ-Sp. | | Gear | Splitdorf | Yes | Bennett | No. | Grv. | 3G-17K | Bennett |
| Frick A | | 2 | 12-20 | Erd | 4-4 x6 | I. | Block | 900 | Erd | Cent. | 775 | Circ-Sp. | | Plunger | Kingston | Yes | Kingston | No. | Grv. | 3G-20K | Bennett |
| Gray | | | 18-36 | Waukesha | 4-4¾x6¾ | L. | Pairs | 850 | Waukesha | Cent. | 875 | Circ-Sp. | Waukesha | Gear | Bosch | Yes | Bennett | Yes | Grv. | 34G | Bennett |
| Ground Hog | | 3 | 19-31 | Erd | 4-4 x6 | I. | | 850 | | | | | | | Splitdorf | | Schebler | | | | Amt. Co |
| Hart Parr 30 | 1,595 | 4 | 15-30 | Own | 2-6½x7 | I. | Block | 750 | Own | Cent. | 1190 | Pressure | M-K | Plunger | K-W | Yes | Schebler | Yes | Grv. | 1G23-K | Own |
| Heider C | | 3 | 12-20 | Waukesha | 4-4½x6¾ | L. | Pairs | 900 | Waukesha | Cent. | 780 | Circ-Sp. | | Gear | Splitdorf | Yes | Kingston | Yes | Grv. | 7G-14K | Bennett |
| Heider D | | 2 | 9-16 | Waukesha | 4-4¼x5¾ | L. | Pairs | 1000 | Waukesha | Cent. | 670 | Circ-Sp. | | Gear | Splitdorf | Yes | Kingston | Yes | Grv. | 7G-14K | Bennett |
| Huber Super 4 | | 3 | 15-30 | Midwest | 4-4½x6 | L. | Pairs | 1100 | Pierce | Cent. | | Pressure | | Gear | Kingston | Yes | Kingston | No. | Grv. | 23G | R-W |
| Huber Light 4 | | 3 | 12-25 | Waukesha | 4-4½x5¾ | L. | Pairs | 1000 | Waukesha | | 711 | Circ-Sp. | | Gear | Kingston | Yes | Kingston | Yes | Grv. | 2G-20K | Bennett |
| Imperial E | 5,000 | 10 | 40-70 | Own | 4-7½x9 | I. | Singly | 400 | Own | Cent. | | Pressure | Detroit | Plunger | Splitdorf | Yes | Kingston | Yes | Pump. | 70-G | Bennett |
| Indiana F | | 1 | 5-10 | Le Roi | 4-3½x4½ | L. | Block | 1000 | Le Roi | Cent. | 350 | Splash | | Plunger | | No. | Kingston | No. | Grv. | 10G | Bennett |
| International 8-16 | 1,150 | 2 | 8-16 | Own | 4-4¼x5 | I. | Block | 1000 | Own | Cent. | 960 | Sp-Pres | | Plunger | Splitdorf | Yes | Ensign | No. | Grv. | 1G-11½K | Own |
| International 15-30 | 2,300 | 4 | 15-30 | Own | 4-5¼x8 | I. | Pairs | 575 | Own | Cent. | 2265 | Pressure | M-K | Plunger | K-W | Yes | Own | Yes | Pump. | 24K | Own |
| La Crosse M | 900 | 1 | 6-12 | Own | 2-4 x6 | I. | Block | 1000 | Own | Cent. | 600 | Pressure | M-K | Plunger | At-Kent | No | Kingston | No. | Grv. | 2G-13K | Bennett |
| La Crosse H | 1,250 | 3 | 12-24 | Own | 2-6 x7 | I. | Block | 900 | Own | Cent. | 900 | Pressure | M-K | Plunger | Splitdorf | Yes | Kingston | Yes | Grv. | 2G-13K | Bennett |
| Lausen 15-30 | | 3 | 15-30 | Beaver | 4-4¾x6 | I. | Block | 950 | Taco | Cent. | 1200 | Pressure | | Gear | Splitdorf | Yes | Kingston | No. | Grv. | 27G | Own |
| Leonard E | | 3 | 20-30 | Buda | 4-4½x6 | L. | Block | 1000 | Simplex | Cent. | 960 | Pressure | | Gear | Splitdorf | Yes | Zenith | No. | Vac. | | Own |
| Liberty A | 2,475 | 4 | 18-32 | Climax | 4-5 x6½ | L. | Pairs | 850 | Own | Cent. | 1150 | Pressure | | Vane | Splitdorf | Yes | Stromberg | Yes | Grv. | 5G-20K | Bennett |
| Lombard | | 16 | 140 | Special | 6-5½x6¾ | T. | | 1200 | Special | | | Pressure | | Gear | | Yes | | | | 65G | |
| Macultivator | 225 | | 1½ | Own | 1-2¾x3½ | L. | | 1000 | | | | Splash | | | Berling | No. | Schebler | | Grv. | 1G | |
| Magnet 14-28 | 1,875 | 3 | 14-28 | Waukesha | 4-4½x6¼ | L. | Pairs | 900 | Waukesha | Cent. | 950 | Sp-Pr | | Gear | Berling | Yes | Stromberg | | Grv. | 5G-20K | Bennett |
| Merry Garden | 230 | | 2 | Evinrude | 1-2½x2½ | | Singly | 900 | | | | Circ | | | Bosch | | Evinrude | | Grv. | 1½G | Atma |
| Mohawk | 785 | 2 | 9-16 | Light | 4-3¼x4½ | L. | Block | 1000 | Pierce | Cent. | 355 | Splash | | Plunger | Simms | No. | Kingston | | | 2G-6K | Bennett |
| Moline-Universal | 1,325 | 2 | 9-18 | Own | 4-3½x5 | T. | Block | 1400 | Remy | Electric | 730 | Pressure | | Gear | | | Holley | No. | Grv. | 15G | Bennett |
| New Britain 1 | | 1 | 3-6 | Own | 2-2¾x4 | L. | Block | 1500 | None | | | Splash | Own | | Splitdorf | No. | Kingston | No. | Grv. | 2G | Bennett |
| New Britain 2 | | 1 | 3-6 | Own | 2-2¾x4 | L. | Block | 1500 | | | | Splash | | | Splitdorf | | Kingston | No. | Grv. | 2G | Bennett |
| Oil-Pull 12-20 | | 3 | 12-20 | Own | 2-6 x8 | I. | Pairs | 560 | Own | Cent. | | Splash | M-K | Ind. | Bosch | Yes | Own | Yes | Pump. | 1G-23K | Donaldson |
| Oil-Pull 16-30 | | 4 | 16-30 | Own | 2-7 x8½ | I. | Pairs | 530 | Own | Cent. | 2000 | Splash | M-K | Ind. | Bosch | Yes | Own | Yes | Pump. | 1G-31K | Donaldson |
| Oil-Pull 20-40 | | 6 | 20-40 | Own | 2-8 x10 | I. | Singly | 450 | Own | Cent. | | Splash | M-K | Ind. | Bosch | Yes | Own | Yes | Pump. | 1G-45K | Donaldson |
| Oil-Pull 30-60 | | 8 | 30-60 | Own | 2-10 x12 | I. | Singly | 375 | Own | Cent. | 7500 | Splash | M-K | Ind. | Bosch | Yes | Own | Yes | Pump. | 3G-70K | |
| Oldsmar | 395 | ½ | 3-5 | Own | 1-5½x5½ | I. | Singly | 585 | | | 350 | Splash | | | Splitdorf | Yes | Schebler | | Grv. | 2G | |
| Oliver A | | 3 | 15-30 | Beaver | 4-4½x6 | I. | Block | 900 | | Cent. | 1000 | Pressure | | Gear | Splitdorf | Yes | Bennett | No. | Grv. | 5G-18K | Bennett |
| Parrett K | | 3 | 15-30 | Pitt | 4-4¼x6 | I. | Block | 1000 | Own | Cent. | 961 | Pressure | | Gear | Eisemann | Yes | Kingston | No. | Grv. | 2¾G-18K | Parrett |
| Peoria L | 1,785 | 3 | 12-25 | Climax | 4-5 x6½ | L. | Pairs | 800 | Climax | Cent. | 1000 | Pressure | | Plunger | Eisemann | Yes | Stromberg | No. | Grv. | 5G-30K | Tako |
| Pioneer 18-36 | | 4 | 18-36 | Own | 4-5½x6 | L. | Pairs | 750 | Pierce | Cent. | 1300 | Pressure | Manzel | Gear | Berling | Yes | Kingston | Yes | Grv. | 2G-23K | Bennett |
| Pioneer 30-60 | | 10 | 30-60 | Own | 4-7 x8 | L. | Pairs | 625 | Own | Cent. | 4500 | Pressure | Detroit | Gear | K-W | Yes | Kingston | Yes | Grv. | 50G | Bennett |
| Plowman A | 1,995 | 3 | 15-30 | Buda | 4-4½x6 | L. | Block | 1000 | Own | Cent. | 1070 | Pressure | Buda | Gear | Splitdorf | Yes | Stromberg | | Grv. | 2½G-17K | Leonard |
| Port-Huron A | 1,700 | 3 | 12-25 | Chief | 4-4¼x6 | L. | Block | 900 | Pickering | Throt. | 1000 | Pressure | | Gear | Eisemann | Yes | Kingston | No. | Grv. | 5G-25K | Own |
| Post D | | 2 | 12-20 | Waukesha | 4-4¼x5¾ | L. | Pairs | 800 | Waukesha | Cent. | 725 | Circ-Sp. | | | Splitdorf | Yes | Kingston | No. | Grv. | 2G-13K | Bennett |
| Ranger T-20 | 1,250 | 1 | 8-16 | Le Roi | 4-3½x4½ | L. | Block | 1100 | Le Roi | Cent. | 345 | Sp-Pr | Le Roi | Plunger | Splitdorf | No. | Holly | No. | Grv. | 10G | Bennett |
| Reliable 10-20 | 985 | 2 | 10-20 | Own | 2-6 x7 | I. | Block | 600 | Own | Cent. | 1120 | Pressure | Detroit | Plunger | Splitdorf | Yes | Own | Yes | Pump. | 11K | |
| Rex 12-25 | 1,600 | 3 | 12-25 | Waukesha | 4-4¼x5¾ | L. | Pairs | 900 | Waukesha | Cent. | 670 | Splash | | Gear | K-W | Yes | Kingston | No. | Grv. | 5G-20K | Bennett |
| Samson M | 1,060 | 2 | | Northway | 4-4 x5½ | L. | Block | 1000 | Own | Cent. | 830 | Circ | Own | Gear | Simms | Yes | Kingston | No. | Grv. | 3G-20K | Own |
| Sandusky J | | 2 | 10-20 | Own | 4-4¼x5¼ | L. | Block | 1000 | Own | Cent. | 850 | Splash | | Plunger | Splitdorf | Yes | Kingston | No. | Grv. | 5G-15K | Bennett |

**ABBREVIATIONS**—**Cent**—Centrifugal; **Circ**—Circulating; **Circ-Pr**—Circulating Pressure; **Circ-Sp**—Circulating Splash; **Cont**—Contracting; **Elec**—Electric; **Expand**—Expanding; **Fric**—Friction; **Grv**—Gravity; **H**—Horizontal; **Hyd**—Hydraulic; **Ind**—Individual; **L**—L-Head;

# Gasoline Farm Tractors for 1921

and Kerosene Farm Tractors Produced by Manufacturers, with Ignition System, Air Cleaner, Gearset, Clutch and Axle.

| Radiator Make | Cooling System Capacity | Cooling Fluid | Fluid Circulation | Belt Pulley Diameter, Face and R.P.M. | Gearset Make | Clutch Make | Clutch Type | No. of Forward Speeds | Differential Lock | Final Drive | Plowing Speed | No. of Driving Wheels | Diameter and Face | No. of Tracks | Drive Wheel Axle Type | No. of Non-drive Wheels | Steering Arrangement | Frame Material | Wheel Base | Total Weight | Name and Model |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Own | 3½ | Water | Ther. | 10 x 5½-1000 | | Borg & Beck | Plate | | | Rim | | 2 | 48 x6 | | Dead | 2 | Swinging | | 81 | | Allis Chalmers 6-12 |
| Own | 10 | Water | Pump. | 15 x 7½- 830 | | Own | Shoe | | | Spokes | 2.3 | 2 | 50 x12 | | Revolving | 2 | Knuckle | | 95 | | Allis-Chalmers 18-30 |
| Spirex | 12 | Water | Pump. | 8 x14 - 900 | Own | Own | Disc | 2 | No | Spokes | 2.5 | 2 | 54 x14 | | Dead | 2 | Knuckle | Steel | 96 | 4950 | Andrews Kin Kade D |
| Perfex | 8 | Water | Pump. | 12 x 7½- 800 | Nuttall | Borg & Beck | Plate | 2 | | Gear | 2¼ | 2 | 54 x12 | | Live | | Knuckle | Steel | | 4900 | Appleton 12-20 |
| Own | 120 | Water | Pump. | 24 x11 - 500 | Own | Own | | 2 | No | Rim | 2½ | 2 | 90 x24 | | Live | 2 | Swinging | Struct. | 136 | 25000 | Aultman-Taylor 30-60 |
| Own | 85 | Water | Pump. | 20 x10 - 600 | Own | Own | | 3 | No | Rim | 2 1/10 | 2 | 70 x20 | | Live | 2 | Swinging | Struct. | 102 | 12800 | Aultman-Taylor 22-45 |
| Own | 5 | Water | Pump. | 20 x 8 - 400 | Own | Own | Shoe | 3 | No | Rim | 2 1/10 | 2 | 70 x12 | | Live | 2 | Knuckle | Struct. | 98½ | 7800 | Aultman-Taylor 15-30 |
| Hooven | 7½ | Water | Pump. | 10 x 8 -1000 | Own | Borg & Beck | Plate | 2 | Yes | Axle | 2¼ | 2 | 40 x10 | | Live | 2 | Power | Steel | 70 | 3950 | Automotive B-3 |
| McC.-T | | Water | Pump. | 10 x 5¼- 800 | Own | Own | Disc | 3 | No | Spokes | 2½ | 2 | 42 x6 | | Dead | 1 | | Channel | 106 | 3450 | Avery-Cultivator C |
| Own | | Water | Ther. | 10 x 5¼- 800 | Own | Own | | 3 | No | Spokes | 2½ | 2 | 42 x5 | | Dead | 2 | | Channel | 81 | 2650 | Avery Single Row Cult. |
| Own | 4½ | Water | Ther. | 10 x 5¼- 800 | Own | Own | Disc | 3 | No | Spokes | 2½ | 2 | 42 x5 | | Dead | 2 | | Channel | 78 | 2600 | Avery B |
| Own | 4½ | Water | Ther. | 12 x 5¼- 800 | Own | | | 3 | No | Spokes | 2½ | 2 | 38 x10 | | Dead | 2 | Knuckle | Channel | 90 | 3150 | Avery C |
| Own | 4½ | Water | Ther. | 12 x 5¼- 800 | Own | | | 3 | No | Spokes | 2¼ | 2 | 38 x10 | | Dead | 2 | Knuckle | Channel | 90 | 3150 | Avery C |
| Own | 4½ | Water | Ther. | 10 x 5¼- 800 | Own | | | 2 | No | Spokes | 2⅛ | 2 | 56 x20 | | Revolving | 2 | Swinging | Channel | 95 | 7500 | Avery 12-25 |
| Own | 17½ | Water | Ther. | 19½x 7 - 700 | Own | | | 2 | No | Spokes | 2⅛ | 2 | 60 x16 | | Revolving | 2 | Swinging | Channel | 96 | 6800 | Avery 14-28 |
| Own | 30 | Water | Ther. | 16 x 7 - 700 | Own | | | 2 | No | Spokes | 2⅛ | 2 | 60 x16 | | Revolving | 2 | Swinging | Channel | 97 | 9250 | Avery 18-36 |
| Own | 33 | Water | Ther. | 18 x 8 - 650 | Own | | | 2 | No | Spokes | 2 | 2 | 65 x20 | | Revolving | 2 | Swinging | Channel | 114 | 12500 | Avery 25-50 |
| Own | 55 | Water | Ther. | 22 x 8½- 600 | Own | | | 2 | No | Spokes | 2½ | 2 | 69 x20 | | Revolving | 2 | Swinging | Channel | 138 | 22000 | Avery 45-65 |
| Own | 90 | Water | Ther. | 26 x10 - 500 | Own | | | 2 | No | Spokes | 1¾ | 2 | 87½x24 | | Revolving | 2 | Swinging | Channel | 90 | 4900 | Avery 8-16 |
| Own | 12½ | Water | Ther. | 18 x 7 - 600 | Own | | | 2 | No | Spokes | 1¾ | 2 | 50 x12 | | Revolving | 2 | Swinging | Channel | 90 | 4900 | |
| Own | 8 | Water | Pump. | 10 x 7 - 850 | Own | Own | Shoe | 3 | Yes | Rim | 2½ | 2 | 50 x12 | | Dead | 2 | Knuckle | I-Beam | 74 | 4000 | Bates D |
| Shotwell | 1½ | Water | Ther. | 4½x 3¼ | | Own | Cone | | | | | 2 | 25½x 3¼ | | | 2 | | | | 600 | Beeman G |
| Own | | Water | Ther. | 12 x 7 | Own | Own | Disc | 2 | | Gear | 2 | | | 2 | | | | | | 2500 | Best Thirty |
| Own | | Water | | 16 x10 | | Own | Disc | 2 | | Gear | 1⅞ | | | 2 | | | | | | 17500 | Best Sixty |
| Own | 9 | Water | Pump. | 14¼x 5¼-1050 | Own | Own | Shoe | 2 | Yes | Spokes | 2¼ | 2 | 42 x9 | | Live | 2 | Knuckle | Cast | 65 | 3400 | Case 10-18 |
| Own | 11 | Water | Pump. | 16 x 6½- 900 | Own | Borg & Beck | Plate | 2 | Yes | Spokes | 2¼ | 2 | 52 x14 | | Live | 2 | Knuckle | Cast | 76½ | 6350 | Case 15-27 |
| Own | 15½ | Water | Pump. | 16½x 8½ | Own | Own | Shoe | 2 | Yes | Spokes | 2½ | 2 | 56 x16 | | Live | 2 | Knuckle | Struct. | 96 | 9200 | Case 22-40 |
| Modine | 7½ | Water | Pump. | 10½x 8½-1012 | Own | Own | Disc | 3 | | Gear | 1 6/10 | | | 2 | | | Clutches | Cast | | 9400 | Caterpillar T-11 |
| Own | 12 | Water | Pump. | 10½x10½- 850 | Own | Own | Disc | 3 | | Gear | 1 6/10 | | | 2 | | | Clutches | Cast | | 19000 | Caterpillar T-16 |
| Perfex | 6 | Water | Pump. | 10 x 8 -1000 | Own | Bierman | Shoe | 2 | | Rim | 1¾ | 2 | 48 x12 | | Dead | 1 | Knuckle | Struct. | 94 | 5200 | Chase 12-25 |
| McCord | 5 | Water | Pump. | 8 x 6 -126 | Own | Borg & Beck | Plate | 1 | No | Gear | 3½ | | | 2 | Dead | 8 | Special | Struct. | | 3455 | Cletrac W |
| Perfex | 8 | Water | Pump. | 8 x10 - 38 | Own | Borg & Beck | Plate | 3 | No | | 1½ | 4 | 40 x10 | | Live | | Swinging | Struct. | 100 | 6500 | Depue 20-30 |
| Modine | 7½ | Water | Pump. | 12 x 6½- 900 | Own | Own | Cone | 2 | No | Gear | 2 7/10 | 2 | 54 x12 | | Revolving | 2 | Knuckle | Channel | 87½ | 4355 | Emerson-Brantingham 12-20 |
| Shotwell | 9 | Water | Ther. | 14 x 9 - 800 | Own | | Disc | 2 | No | Spokes | 3½ | 2 | 52 x26 | | Dead | 2 | Knuckle | Channel | 80 | 5200 | Farm Horse |
| Modine | 10 | Water | Pump. | 14 x 7 - 800 | Nuttall | Borg & Beck | Plate | 2 | No | Rim | 2¼ | 2 | 54 x10 | | Dead | 2 | Knuckle | Channel | 83 | 5800 | Farquhar 15-25 |
| Own | | Water | Pump. | 32 x 9 - 275 | Own | Own | Fric | 1 | Yes | Rim | 2 3/10 | 2 | 84 x20 | | Dead | 2 | Knuckle | Channel | 132 | 19000 | Farquhar 25-50 |
| Own | | Water | Pump. | 32 x 9 - 275 | Own | Own | Fric | 1 | Yes | Rim | 2 3/10 | 2 | 84 x20 | | Dead | 2 | Swinging | Channel | 132 | 16000 | Farquhar 18-35 |
| Spirex | 7 | Water | Pump. | 14 x 8 - 700 | Ganshaw | Cotta | Special | 3 | No | Axle | 2¼ | 4 | 36 x12 | | Live | | Swinging | Channel | | 5800 | Fitch |
| Own | 12 | Water | Ther. | 9½x 6½-1000 | Own | Own | Disk | 3 | No | Axle | 2 7/10 | 2 | 42 x12 | | Live | 2 | Knuckle | | 63 | 2325 | Fordson |
| Perfex | 9¾ | Water | Pump. | 13 x 7 - 900 | Nuttall | Own | Shoe | 2 | No | Rim | 2 3/10 | 2 | 60 x12 | | Revolving | 2 | Knuckle | Struct. | 63¾ | 6450 | Frick C |
| Perfex | 7¾ | Water | Pump. | 13 x 7 - 900 | | Own | Shoe | 2 | No | Rim | 2 3/10 | 2 | 60 x10 | | Revolving | 2 | Knuckle | Struct. | 67¾ | 5700 | Frick A |
| Shotwell | 9 | Water | Pump. | 11½x 8½- 850 | Own | Own | Cone | 2 | | Rim | 2½ | 1 | 54 x54 | | Revolving | 2 | Knuckle | Struct. | 104 | 6185 | Gray |
| A.M.T. | | | | 14 x 7 | | Twin | | | | | | | | | | | | | 90 | 3750 | Ground-Hog |
| Perfex | 10 | Water | Pump. | 14 x 8 -2300 | Own | Own | Shoe | 2 | No | Gear | 3 | 2 | 52 x10 | | Revolving | 2 | Knuckle | Steel | 132 | 5200 | Hart-Parr 30 |
| Perfe | 9⅛ | Water | Pump. | 14 x 7 | | | Fric | 4 | No | Rim | 2½ | 2 | 57 x10 | | Live | 2 | Knuckle | Steel | 96 | 6000 | Heider C |
| Perfex | 8 | Water | Pump. | 12 x 6 -1600 | | | Fric | 4 | No | Rim | 2½ | 2 | 54 x8 | | Live | 2 | Knuckle | Steel | 90 | 4000 | Heider D |
| Perfex | 10 | Water | Pump. | 13 x 8 -1100 | Own | Own | Disc | 2 | No | Rim | 2 9/10 | 2 | 60 x10 | | Revolving | 2 | Knuckle | Struct. | 90 | 6200 | Huber-Super 4 |
| Perfex | 8 | Water | Pump. | 13 x 7 -1000 | Own | Own | Shoe | 2 | No | Rim | 2 7/10 | 2 | 60 x10 | | Revolving | 2 | Knuckle | Struct. | 90 | 5200 | Huber-Light 4 |
| Own | 45 | Water | Pump. | 30 x12 - 400 | Own | Own | Shoe | 2 | Yes | Rim | 2½ | 2 | 96 x30 | | Dead | 2 | Swinging | Steel | 137 | 20800 | Imperial E |
| Chandler | 4½ | Water | Ther. | 14 x 11¼ | Own | Own | S.B | 4 | No | Chain | 2½ | 2 | 50 x12 | | Dead | 2 | Swinging | C. I | 64 | 2300 | Indiana F |
| B. & L. | 12 | Water | Ther. | 12¾x 8½- 625 | Own | Own | Disc | 2 | No | Spokes | 2¾ | 2 | 40 x10 | | Dead | 2 | Knuckle | Struct. | 85 | 3600 | International 8-16 |
| B. & L. | 40 | Water | P.&T. | 18 x 9 - 575 | Own | Own | Cont | 2 | No | Spokes | 2¾ | 2 | 66 x14 | | Live | 2 | Knuckle | Struct. | 94 | 8990 | International 15-30 |
| Modine | 14 | Water | Pump. | 10 x 5½-1000 | Own | Own | Fric | 1 | Yes | Rim | 3 | 2 | 48 x7 | | Dead | 2 | Knuckle | Channel | 72 | 2800 | La Crosse M |
| Modine | 8 | Water | Pump. | 11 x 7½- 900 | Own | Own | Cont | 1 | Yes | Rim | 3 | 2 | 56 x10 | | Revolving | 2 | Knuckle | Steel | 90 | 3800 | La Crosse H |
| Perfex | 7½ | Water | Pump. | 17½x 8 - 475 | Own | Own | Shoe | 2 | No | Rim | 2½ | 2 | 54 x12 | | Revolving | 2 | Knuckle | Struct. | 88 | 6550 | Lauson 15-30 |
| Modine | 8 | Water | Pump. | 16 x 8 - 575 | Own | Hilliard | | 2 | Yes | Gear | 2¾ | 4 | 50 x12 | | Stationary | | Swinging | Steel | 98 | 5000 | Leonard E |
| Modine | 8 | Water | Pump. | 12 x 8 - 950 | Own | Own | Shoe | 2 | No | Axle | 2½ | 2 | 48 x12 | | Live | 2 | Knuckle | Channel | 84 | 6000 | Liberty A |
| S. & J. | 10 | Water | Pump. | | | Special | | 3 | | Axle | 2 | | | 2 | | | Knuckle | | | | Lombard |
| Special | | | | | | | | | | Spokes | | 2 | 19½x3 | | Dead | | | | | 210 | Macultivator |
| S. & J. | 10 | Water | Pump. | 14 x 7 - 700 | Own | Borg & Beck | Plate | 3 | No | Axle | 2½ | 2 | 48 x12 | | Live | 2 | K. & Sw. | Channel | 90 | 4400 | Magnet 14-28 |
| | 2 | Water | Ther. | 6 x 2 - 200 | Own | Own | Dog | 1 | | Spokes | | 2 | 20 x3 | | Live | | | Iron | | 260 | Merry Garden |
| Rex | 6 | | Ther. | 8 x 4 - 600 | Own | Own | | 2 | Yes | Axle | 2¼ | 2 | 40 x8 | | Live | 2 | | C. I. | | 2150 | Mohawk |
| Modine | 6 | Water | Ther. | 8½x 6½-1200 | Own | Own | Spur | 1 | Yes | Rim | 2¾ | 2 | 51½x8 | | Dead | | Knuckle | Channel | | 3380 | Moline Universal |
| G. & O. | 3 | W.&O. | Ther. | 5½x 4¼-1500 | Own | Own | Disc | 1 | Yes | Ax-Sp | 2¼ | 2 | 3½x26½ | | Live | 2 | H. Bars | Iron | 96 | 700 | New Britain 1 |
| G. & O. | 3 | | Ther. | 5½x 4¼-1500 | Own | | | 1 | Yes | Ax-Sp | 2¼ | 2 | 4 x32 | | Live | 2 | H. Bars | Iron | 100 | 750 | New Britain 2 |
| Own | 10½ | Oil | Pump. | 19 x 7 - 560 | Own | Own | Shoe | 2 | No | Rim | 2 1/10 | 2 | 51 x12 | | Live | 2 | Knuckle | Channel | 80 | 6682 | Oil-Pull 12-20 |
| Own | 15 | Oil | Pump. | 23 x 8½- 530 | Own | Own | Shoe | 2 | No | Rim | 2 1/10 | 2 | 56 x18 | | Live | 2 | Knuckle | Channel | 92½ | 9600 | Oil-Pull 16-30 |
| Own | 17 | Oil | Pump. | 26 x 4 - 450 | Own | Own | Shoe | 2 | No | Rim | 2 | 2 | 64 x20 | | Live | 2 | Knuckle | Channel | 103 | 12820 | Oil-Pull 20-40 |
| Own | 70 | Oil | Pump. | 36 x11 - 375 | Own | Own | Shoe | 1 | No | Rim | 1 9/10 | 2 | 80 x30 | | Live | 2 | Swinging | I-Beam | 141 | 26700 | Oil-Pull 30-60 |
| | | Air | | 4 x 4¼- 585 | Own | Own | | 1 | | Axle | 2½ | 2 | 30 x8 | | Live | 2 | | Channel | 72 | 1100 | Oldsmar |
| Modine | 10 | Water | Pump. | 21½x 7 - 450 | Own | | Disc | 2 | | Axle | 2⅛ | | | 2 | Live | | | Steel | 60 | 8200 | Oliver A |
| Perfex | 10 | Water | Pump. | 12 x 7½-1000 | Own | Own | Disc | 2 | No | Rim | 2½ | 2 | 60 x10 | | Revolving | 2 | Knuckle | Struct. | 91 | 5310 | Parrett K |
| Eureka | 12 | Water | Pump. | 16 x 7 - 650 | Own | Own | Cone | 3 | No | Axle | 3 | 2 | 50 x12 | | Live | | Knuckle | Steel | 80 | 4700 | Peoria I |
| S. J. | 13 | Water | Pump. | 14 x 7 | Own | Own | Disc | 3 | No | Spokes | 2¾ | 2 | 60 x18 | | Revolving | 2 | Knuckle | Steel | 89 | 6500 | Pioneer 18-36 |
| S. J. | 25 | Water | Pump. | 18 x15 - 625 | Own | Own | Disc | 3 | No | Spokes | 2½ | 2 | 96 x24 | | Revolving | 2 | Knuckle | Channel | 99 | 5400 | Pioneer 30-60 |
| Perfex | 12 | Water | Pump. | 14 x 8 - 590 | Foote | Twin | Disc | 2 | No | Rim | 3 | 2 | 60 x12 | | Dead | 2 | Knuckle | Channel | 93 | 5960 | Plowman A |
| Bremer | 8¾ | Water | Pump. | 14 x 8 - 650 | Own | Rock | Fric | 2 | No | Rim | 2 | 2 | 56 x10 | | Revolving | 2 | Knuckle | Channel | 93 | 5960 | Port-Huron A |
| Perfex | 9 | Water | Pump. | 14 x 6 - 700 | Fuller | Fuller | Disc | 3 | No | Axle | 2¾ | 2 | 32 x4 | | Live | 2 | Power | Steel | 108 | 4500 | Post D |
| Bremer | 2½ | Water | Ther. | 5 x 1 - 500 | Own | Borg & Beck | Disc | 1 | Yes | Rim | 1½ | 4 | 30 x6½ | | Dead | none | Own | Steel | 38 | 3300 | Ranger A |
| Tank | 50 | Water | Pump. | 18 x 7 - 600 | Own | | | 2 | No | Axle | 2 1/10 | 2 | 48 x10 | | Live | 2 | Swinging | Struct. | 77 | 3785 | Reliable 10-20 |
| Perfex | 9 | Water | Pump. | 32 x 7 - 900 | Own | Own | Shoes | 2 | No | Gears | 2½ | 2 | 60 x10 | | Revolving | 2 | Knuckle | Channel | 84 | 5500 | Rex 12-25 |
| Own | 10 | Water | Pump. | 12 x 6 - 375 | Own | Own | Disc | 2 | No | Axle | 2 | 2 | 45 x12 | | Live | 2 | Knuckle | | 61¼ | 3233 | Samson M |
| Perfex | 8 | Water | Pump. | 12 x 6 -1000 | Own | | | 2 | No | Rim | 2 | 2 | 48 x10 | | Live | 2 | Knuckle | Channel | 96 | 4820 | Sandusky |

O—Oil; Splash-Gr—Splash Gravity; Sp-Pr—Splash Pressure; Struct—Structural Steel; T—T-head; Throt—Throttle; V—Vertical; Vac—Vacuum. EQUIPMENT—M-K—Madison Kipp.

# Detailed Technical Specifications of

| Name and Model | Price | Plow Capacity | H.P. Rating | Engine Make | No. of Cylinders Bore & Stroke | Engine Type | Cylinders Cast | R.P.M. | Make of Governor | Type of Governor | Engine Weight | Lubrication System | Mechanical Lubricator Make | Oil Pump Type | Ignition System | Impulse Starter | Carbureter Make | Water Injected with Fuel | Fuel Feed | Fuel Tanks and Capacities | Air Cleaner Make |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sandusky E | | 4 | 15-35 | Own | 4-5 x6½ | L | Singly | 800 | Own | Cent | 2060 | Splash | | Plunger | Splitdorf | Yes | Kingston | No | Grv | 5G-25K | Bennett |
| Shelby D | | 3 | 15-30 | Beaver | 4-4¾x6 | L | Block | 900 | Taco | Cent | 1100 | Pressure | | Gear | Splitdorf | Yes | Kingston | No | Grv | 4G-14K | Bennett |
| Shelby C | | 2 | 10-20 | Erd | 4-4 x6 | | | 1000 | | | | | | | Splitdorf | | Kingston | No | Grv | 5G-12K | Bennett |
| Square Turn A | 2,075 | 3 | 18-35 | Climax | 4-5 x6½ | I | Pairs | 850 | Climax | Cent | 1150 | Pressure | Climax | Vane | Splitdorf | Yes | Stromberg | No | Grv | 15G-15K | Bennett |
| Stinson 4-E | | 4 | 18-36 | Beaver | 4-4¾x6 | I | Block | 1000 | Taco | Cent | | Pressure | | Gear | Splitdorf | Yes | Kingston | Yes | Grv | 5½G-26½K | Own |
| Tioga T-3 | 2,625 | 3 | 15-27 | Wisconsin | 4-4½x6 | L | Block | 1000 | Pharo | Oil | 1000 | Sp-Pr | | Gear | Splitdorf | Yes | Stromberg | No | Grv | 28G | Bennett |
| Titan 10-20 | 1,200 | 3 | 10-20 | Own | 2-6½x8 | I | Pairs | 575 | Own | Cent | | Pressure | M-K | | K-W | Yes | | Yes | Pump | 16K | Own |
| Topp-Stewart B | 4,000 | 3 | 30-45 | Waukesha | 4-4¾x6¾ | L | Pairs | 950 | Waukesha | Cent | 850 | Sp-Pr | | Gear | Eisemann | Yes | Stromberg | No | Grv | 25G | Bennett |
| Traylor T | 815 | 1 | 6-12 | Le Roi | 4-3½x4½ | L | Block | 1200 | Le Roi | C. D. | 330 | Pressure | | Plunger | Splitdorf | No | Kingston | No | Grv | 10G | A. P. Co. |
| Turner 14-25 | 1,695 | 3 | 14-25 | Buda | 4-4¼x5½ | L | Block | 1000 | Simplex | | 700 | | | Gear | Splitdorf | Yes | | | | | |
| Twin City 12-20 | | 3 | 12-20 | Own | 4-4¼x6 | I | Block | 1000 | Own | Cent | 900 | Circ-Pr | Own | Gear | Bosch | Yes | Holley | No | Grv | 3G-23K | Bennett |
| Twin-City 20-35 | | 5 | 20-35 | Own | 4-5½x6¾ | I | Block | 900 | Own | Cent | 1800 | Circ-Pr | Own | Gear | Bosch | Yes | Holley | No | Grv | 11½G-40K | Bennett |
| Twin-City 40-65 | | 8 | 40-65 | Own | 4-7¾x9 | I | Singly | 535 | Own | Cent | 3500 | Splash | Detroit | | K-W | Yes | Holley | No | Pump | 10G-95K | |
| Victory 15-30 | 1,750 | 3 | 15-30 | Waukesha | 4-4¼x5¾ | | Pairs | 1000 | Waukesha | Cent | 750 | Sp-Pr | Waukesha | Plunger | Splitdorf | Yes | Miller | No | Grv | 25G | Bennett |
| Victory 9-18 | 1,385 | 2 | 9-18 | Gray | 4-3½x5 | I | Block | 1000 | Pierce | Cent | 500 | Sp-Pr | Gray | Plunger | Splitdorf | Yes | Carter | No | Grv | 25G | Bennett |
| Vim 15-30 | 1,650 | 3 | 15-20 | Waukesha | 4-4¾x5¾ | L | Pairs | 1000 | Waukesha | | 845 | Press | | Gear | Simms | No | Bennett | No | Grv | 3G-12K | R. W |
| Wallis K | | 3 | 15-25 | Own | 4-4¼x5¾ | I | Block | 900 | Own | Hyd | 750 | Splash | Own | Plunger | Berling | Yes | Bennett | No | Grv | 20K | Bennett |
| Waterloo N | | 3 | 12-25 | Own | 2-6½x7 | I | Block | 750 | Own | Cent | 1200 | Spray | Own | Plunger | Splitdorf | Yes | Schebler | Yes | Grv | 1G-20K | |
| Wetmore 12-25 | 1,650 | 3 | 12-25 | Waukesha | 4-4 x5¾ | L | Pairs | 1000 | Waukesha | | 900 | Pressure | | Gear | Splitdorf | Yes | Schebler | No | Grv | 2½G-12K | |
| Whitney 9-18 | 1,175 | 2 | 9-18 | Own | 2-5½x6½ | L | Singly | 750 | Own | Cent | 650 | Pressure | M-K | | Splitdorf | Yes | Bennett | No | Grv | 10G | Bennett |
| Wichita T | 2,500 | 3 | 30-15 | Beaver | 4-4½x6 | I | Block | 950 | Duplex | | 1000 | Sp-Pr | | Gear | Berling | Yes | Ensign | No | Grv | 1½G-25K | Bennett |
| Wisconsin | 2,250 | 4 | 16-30 | Climax | 4-5 x6½ | L | Pairs | 800 | Climax | Cent | 1350 | Pressure | Climax | Gear | Eisemann | Yes | Stromberg | No | Grv | 6G-25K | Bennett |
| Zelle 12-25 | | 2 | 12-25 | | 4-4¼x5½ | L | Block | 1000 | | Cent | 600 | Sp-Pr | | Plunger | | Yes | Carter | Yes | Vac | 5G-25K | Leonard |

**ABBREVIATIONS**—**Cent**—Centrifugal; **Circ**—Circulating; **Circ-Pr**—Circulating Pressure; **Circ-Sp**—Circulating Splash; **Cont**—Contracting; **Elec**—Electric; **Expand**—Expanding; **Fric**—Friction; **Grv**—Gravity; **H**—Horizontal; **Hyd**—Hydraulic; **Ind**—Individual; **L**—L-Head;

## A Look Into the Realm of Trucks

(*Concluded from Page 17*)

when shifted into second, third and fourth speeds.

A compound seven-speed gearset has been introduced in the field on the Fageol truck. The Fageol gearset is just the addition of another gearset to work in connection with the standard transmission. There are no more gears than the ordinary four speed transmission uses but it gives five speed forward and two reverse by the use of a two-speed countershaft which is controlled by a separate lever at the side of the gearshift lever. The fifth speed forward is obtained by the use of an over-running gear which will give the truck one-third more speed than when fitted with a standard transmission.

The worm drive axle used on the model AB Mack trucks has been discontinued in favor of a dual reduction drive. The axle housing is a drop-forging extending from hub cap to hub cap. The yoke at the center of the axle is so placed that the plane of greatest strength is virtually parallel with the direction of severest shocks on the axle, and has the additional advantage of increased road clearance. The emergency brake has been placed on the propeller shaft and the service brakes on the rear wheels, the claim being the driver cannot produce such a strong braking effect with rear wheel brakes as with the transmission brake and he is therefore less likely to abuse the tires. The use of the transmission brake has been a big factor as regards accessibility and provides perfect equalization through the differential gears.

Starting and lighting equipment has shown some gain over the year 1920 due to the more general adoption of the pneumatic tire. In many cases this electrical equipment is not standard but may be installed at additional cost. While the use of starting and lighting equipment is confined almost entirely to trucks of 1-ton or under, it is interesting to note that lighting equipment is standard on 3 and 5 ton trucks and one of these is also provided with a starter.

With the development of electrical equipment to give satisfactory service under the severe strains of truck usage will come the general adoption of starting and lighting units as standard equipment on the larger sized trucks.

Trucks being built at the present time, generally speaking, and those that will be built in the coming year are designed with three objects in view, low maintenance and operating cost, long life and accommodation to the road with the least amount of injury to the road.

## Connecticut May Discontinue State Register for Two Years

New London, Conn., Jan. 20—There is likely to be no Connecticut state automobile register issued this year and in 1922, if the legislature appropriations committee adopts the same view of the matter as is taken by the state board of finance. Economy is not the only reason given for the decision, it being claimed that so many changes occur constantly in the registration and ownership of motor vehicles that the register does not serve its intended purpose thoroughly.

The register has been of especial value to some motorists but more especially to dealers, insurance companies and police departments of the state. It is now expected that in the event it is discontinued by the state the state motor vehicle department may continue to furnish lists of automotive registrations to persons desiring them, at a stipulated price.

## Two Billion Dollar Business Is Predicted at Trade Dinner

DES MOINES, Jan. 21.—Sales conditions may not be the best in the world in the Des Moines territory but if the enthusiasm displayed at the annual dinner of the Des Moines Motor Trades bureau this week is any criterion local motor tradesmen are far from downhearted. In point of number in attendance and enthusiasm the meeting was the best ever held by the bureau.

Robert E. Lee, secretary of the St. Louis Manufacturers and Dealers Association was the principal speaker at the dinner and devoted the most of his speech to calling to the attention of the dealers and their employees that they were engaged in one of the four greatest businesses in the world. Mr. Lee was optimistic over 1921 prospects and prophesied that two billion dollars of business would be done in the automobile trade this year.

At the annual election of the bureau held in connection with the dinner all of the old directors were re-elected and four new ones including Lake Bower, Ward Schooler, J. E. Messenger and A. G. Osterlund.

Des Moines, Jan. 21.—Dean Schooler was re-elected president of the Des Moines Automobile Dealers association for the tenth time at the annual meeting held this week. W. W. Sears was re-elected vice president. New directors named were E. G. Raffensberger, of the Buick agency and Don Laster, Saxon and Paterson dealer.

# Gasoline Farm Tractors for 1921—Cont.

| Radiator Make | Cooling System Capacity | Cooling Fluid | Fluid Circulation | Belt Pulley Diameter, Face and R.P.M. | Gearset Make | Clutch Make | Clutch Type | No. of Forward Speeds | Differential Lock | Final Drive | Plowing Speed | No. of Driving Wheels | Diameter and Face | No. of Tracks | Drive Wheel Axle Type | No. of Non-drive Wheels | Steering Arrangement | Frame Material | Wheel Base | Total Weight | Name and Model |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Perfex | 30 | Water | Pump. | 15 x10 - 800 | Own | | | 3 | No | Rim | 2 | 2 | 56 x16 | | Live | 2 | Swinging | Channel | 100 | 9300 | Sandusky E |
| Modine | 6 | Water. | Pump. | 14 x 8 - 650 | Foote | Twin | Disc | 2 | No | R.Spokes | 3½ | 2 | 48 x12 | | Live | 2 | Knuckle | Channel | 80 | 4800 | Shelby D |
| Modine | | | | 10 x 7 - 850 | | Fuller | Disc | 3 | | | 3 | 2 | 44 x12 | | | 2 | | Channel | 72 | 3400 | Shelby C |
| Modine | 10 | Water. | Pump. | 12 x 8 - 850 | Own | | | 2 | No | Rim | 2½ | 2 | 60 x12 | | Dead | 1 | Swinging | Struct | 130 | 7500 | Square Turn A |
| Todd | 10 | Water. | Pump. | 12 x 8 -1000 | Own | Own | Spur | 1 | No | Axle | 2⁹/₁₀ | 2 | 60 x12 | | Live | 2 | Knuckle | Steel | 114 | 7100 | Stinson 4-E |
| G. & O. | 10 | Water. | Pump. | 12 x 7 - 700 | Own | Twin | Disc | 2 | Yes | Hub | 2⁷/₁₀ | 2 | 36 x16 | | Dead | 2 | Knuckle | Channel | 80 | 4950 | Tioga T-3 |
| | 40 | Water. | Ther. | 18 x10½- 575 | | | | 2 | No | Spokes | 2¾ | 2 | 54 x10 | | Live | 2 | Knuckle | Struct | 91 | 5710 | Titan 10-20 |
| Bremer | 12 | Water. | Pump. | 10 x 8 - 950 | Own | Hilliard | Disc | 3 | No | Rim | 2½ | 4 | 42 x12 | | Live | none | Swinging | Struct | 100 | 7500 | Topp-Stewart B |
| G. O. | 3 | Water. | Ther. | 8 x 6 -1200 | Own | Borg & Beck | Disc | 1 | No | Rim | 3 | 2 | 38 x10 | | Live | 2 | Knuckle | Steel | 60 | 1750 | Traylor T |
| | | | | | | | | 2 | | Rim | 2½ | 2 | 54 x12 | | | 2 | Knuckle | Struct | 80 | 4300 | Turner 14-25 |
| Modine | 10 | Water. | Pump. | 16 x 6½ | Own | Twin | Disc | 2 | No | Axle | 2⁹/₁₀ | 2 | 50 x12 | | Live | 2 | Knuckle | Channel | 84 | 4300 | Twin-City 12-20 |
| Modine | 10 | Water. | Pump. | 21 x 8½ | Own | Twin | Disc | 2 | No | Axle | 2.9 | 2 | 60 x20 | | Live | 2 | Knuckle | Channel | 97 | 8350 | Twin City 20-35 |
| Own | 130 | Water. | Pump. | 23 x10½ | Own | Own | Shoe | 1 | No | Rim | 1.9 | 2 | 84 x24 | | Revolving | 2 | Knuckle | Steel | 144 | 23700 | Twin-City 40-65 |
| Own | 5½ | Water. | Pump. | 10 x 6 -1000 | Own | Borg & Beck | Disc | 2 | Yes | Axle | 2¼ | 2 | 48 x12 | | Live | 2 | Knuckle | Steel | 72 | 3500 | Victory 15-30 |
| Own | 5 | Water. | Ther. | 10 x 6 -1000 | Own | Borg & Beck | Disc | 2 | Yes | Axle | 2¾ | 2 | 48 x12 | | Live | 2 | Knuckle | Steel | 72 | 3250 | Victory 9-18 |
| B. W | 1 | Water. | Pump. | 10 x 7 -1000 | Own | Borg & Beck | Disc | 2 | No | Axle | 3 | 2 | 48 x12 | | Live | 2 | Knuckle | Channel | 72 | 4000 | Vim 15-30 |
| Modine | 6 | Water. | Pump. | 18 x 6¾- 430 | Own | Twin | Disc | 2 | No | Axle | 2½ | 2 | 48 x12 | | Live | 2 | Knuckle | Steel | 84 | 3560 | Wallis K |
| Modine | 13 | Water. | Pump. | 14 x 8 - 750 | Own | Own | Shoe | 2 | No | Rim | 2½ | 2 | 52 x12 | | Revolving | 2 | Knuckle | Strut | 88 | 5850 | Waterloo N |
| Ideal | 8 | Water. | Pump. | 12 x 7 - 900 | Fuller | Fuller | Disc | 3 | No | Spokes | 3½ | 2 | 46 x10 | | Dead | 2 | Knuckle | Steel | 72 | 2900 | Wetmore 12-25 |
| Modine | 7 | Water. | Pump. | 11 x 6¾- 750 | Own | Own | Shoe | 3 | No | Axle | 2½ | 2 | 48 x10 | | Live | 2 | Knuckle | Channel | 82 | 2850 | Whitney 9-18 |
| Perfex | 9 | Water. | Pump. | 10½x 6 - 900 | Nuttall | Twin | Disc | 2 | No | Axle | 2⁶/₁₀ | 2 | 48 x12 | | Live | 2 | Knuckle | Struct | 93 | 6000 | Wichita T |
| Perfex | 12 | Water. | Pump. | 16 x 8 - 600 | Foote | Twin | Disc | 2 | No | Rim | 3½ | 2 | 52 x12 | | Revolving | 2 | Knuckle | Channel | 86 | 5440 | Wisconsin |
| Harrison | 12 | Water. | Pump. | 12 x 7 -1000 | Own | Borg & Beck | Disc | 4 | No | Rim | 2½ | 2 | 54 x12 | | Revolving | 2 | Knuckle | Steel | 72 | 3800 | Zelle 12-25 |

**O**—Opposed; **Splash-Gr**—Splash Gravity; **Sp-Pr**—Splash Pressure; **Struct**—Structural Steel; **T**—T-head; **Throt**—Throttle; **V**—Vertical; **Vac**—Vacuum. **EQUIPMENT—M-K**—Madison Kipp.

# *A WORD ABOUT SPECIFICATIONS*

*THE passenger car specifications printed on pages 78 to 81 are of value to dealers in that they afford an opportunity for comparison of the various car models in the different price classes.*

*The specifications can be used in connection with the illustrated section of this issue, pages 25 to 73, wherein are described briefly the different models made by American manufacturers. With photographs of all the cars and with complete technical specifications on each we have attempted to give our dealer readers information of value to their business.*

*Technical specifications of cars, trucks, tractors, electric equipment and farm light plants are featured separately from time to time in the regular issues of* MOTOR AGE.

# BUYERS' GUIDE TO TRACTORS

*BELOW are listed ninety-one models of tractors ranging from a one- and two-plow machine to eight plows and over and made by sixty-three makers. In this table the horsepower rating is that given at the factory. The abbreviation 2W under the heading Traction means two wheels and 2Cr means two crawlers. Under the heading Fuel, G and K designate gasoline and kerosene respectively. In the models listed sixty-two have four-cylinder vertical type engines; thirteen, four-cylinder horizontal engines; ten, two-cylinder horizontal; one, six-cylinder vertical; one, two-cylinder vertical and one, one-cylinder vertical.*

## One and Two Plows

| Name and Model | Draw-bar H.P. | Belt H.P. | Price | Traction | Cylinders | Fuel |
|---|---|---|---|---|---|---|
| Allis Chalmers—6-12 | 6 | 12 | .... | 2 W | 4 Ver. | G |
| Avery—B | 5 | 10 | .... | 2 W | 4 Ver. | G |
| Beeman—G | 2 | 4 | .... | 2 W | 1 Ver. | G |
| Case—10-18 | 10 | 18 | .... | 2 W | 4 Ver. | G-K |
| Chase—12-25 | 12 | 25 | .... | 2 W | 4 Ver. | G-K |
| Fordson | 12 | 20 | 750 | 2 W | 4 Ver. | K |
| Frick—A | 12 | 20 | .... | 2 W | 4 Ver. | G-K |
| Heider—D | 9 | 16 | .... | 2 W | 4 Ver. | G-K |
| Indian—A-F | 5 | 10 | .... | 2 W | 4 Ver. | G |
| International—8-16 | 8 | 16 | .... | 2 W | 4 Ver. | G-K |
| La-crosse—M | 6 | 12 | .... | 2 W | 2 Hor. | G-K |
| Mohawk | 9 | 16 | .... | 2 W | 4 Ver. | G-K |
| Moline—D | 9 | 18 | .... | 2 W | 4 Ver. | G |
| New-Britain—I | 3 | 6 | .... | 2 W | 2 Ver. | G |
| Post—D | 12 | 20 | .... | 2 W | 4 Ver. | G-K |
| Ranger | 8 | 16 | .... | 4 W | 4 Ver. | G |
| Reliable—10-20 | 10 | 20 | 985 | 2 W | 2 Hor. | K |
| Samson—M | .. | .. | 1060 | 2 W | 4 Ver. | G-K |
| Sandusky | 10 | 20 | .... | 2 W | 4 Ver. | G-K |
| Shelby—C | 10 | 20 | .... | 2 W | 4 Ver. | G-K |
| Traylor—T | 6 | 12 | 815 | 2 W | 4 Ver. | G |
| Victory—9-18 | 9 | 18 | 1385 | 2 W | 4 Ver. | G |
| Whitney—9-18 | 9 | 18 | 1175 | 2 W | 2 Hor. | G |
| Zelle—12-25 | 12 | 25 | .... | 2 W | 4 Ver. | G-K |

## Three Plows

| Name and Model | Draw-bar H.P. | Belt H.P. | Price | Traction | Cylinders | Fuel |
|---|---|---|---|---|---|---|
| Wallis—K | 15 | 25 | .... | 2 W | 4 Ver. | G-K |
| Waterloo—N | 12 | 25 | .... | 2 W | 2 Hor. | G-K |
| Wetmore—12-25 | 12 | 25 | 1650 | 2 W | 4 Ver. | G-K |
| Wichita—T | 30 | 15 | 2500 | 2 W | 4 Ver. | G-K |
| Andrews-Kinkaid | .. | .. | .... | 2 W | ..... | G |
| Automotive—B-3 | 12 | 24 | 1785 | 2 W | ..... | G |
| Avery—12-25 | 12 | 25 | .... | 2 W | 2 Hor. | G-K |
| Bates—D | 15 | 25 | .... | 2 W | 4 Hor. | G-K |
| Case—15-27 | 15 | 27 | .... | 2 W | 4 Ver. | G-K |
| Cletrac—W | 12 | 20 | .... | 2 W | 4 Ver. | G-K |
| Emerson-Brantingham | 12 | 20 | .... | 2 W | 4 Ver. | G-K |
| Farm-Horse—B | 18 | 30 | 1885 | 2 W | 4 Ver. | G-K |
| Farquhar—15-25 | 15 | 25 | .... | 2 W | 4 Ver. | G-K |
| Ground Hog | 19 | 31 | .... | ..... | 4 Ver. | G-K |
| Heider—C | 12 | 20 | .... | 2 W | 4 Ver. | G-K |
| Huber-Super—4 | 15 | 30 | .... | 2 W | 4 Ver. | G |
| Huber-Light—4 | 12 | 25 | .... | 2 W | 4 Ver. | G-K |
| La Crosse—H | 12 | 24 | 1250 | 2 W | 2 Hor. | G-K |
| Lauson—15-30 | 15 | 30 | .... | 2 W | 4 Ver. | G |
| Magnet | 14 | 28 | 1875 | 2 W | 4 Ver. | G-K |
| Oil-Pull—12-20 | 12 | 20 | .... | 2 W | 2 Hor. | G-K |
| Oliver—A | 15 | 30 | .... | 2 CR | 4 Ver. | ..... |
| Peoria—L | 12 | 25 | 1875 | 2 W | 4 Ver. | G-K |
| Plowman—A | 15 | 30 | 1995 | 2 W | 4 Ver. | G-K |

## Three Plows—Continued

| Name and Model | Draw-bar H.P. | Belt H.P. | Price | Traction | Cylinders | Fuel |
|---|---|---|---|---|---|---|
| Port-Huron—A | 12 | 25 | 1700 | 2 W | 4 Ver. | G-K |
| Rex—12-25 | 12 | 25 | 1600 | 2 W | 4 Ver. | G-K |
| Shelby—D | 15 | 30 | .... | 2 W | 4 Ver. | G-K |
| Square Turn—A | 18 | 35 | 2075 | 2 W | 4 Ver. | G-K |
| Tioga—T-3 | 15 | 27 | .... | 2 W | 4 Ver. | G |
| Titan—10-20 | 10 | 20 | 1200 | 2 W | 2 Hor. | G-K-D |
| Topp-Stewart | 30 | 45 | 4000 | 4 W | 4 Ver. | G |
| Turner—14-25 | 14 | 25 | 1695 | 2 W | 4 Ver. | ..... |
| Twin-City—12-20 | 12 | 20 | .... | 2 W | 4 Ver. | G-K |
| Victory—15-30 | 15 | 30 | 1750 | 2 W | 4 Ver. | G |
| Vim—15-30 | 15 | 30 | 1650 | 2 W | 4 Ver. | G-K |

## Four Plows

| Name and Model | Draw-bar H.P. | Belt H.P. | Price | Traction | Cylinders | Fuel |
|---|---|---|---|---|---|---|
| Allis-Chalmers | 18 | 30 | .... | 2 W | 4 Ver. | G-K |
| Andrews-Kinkaid—D | 18 | 36 | 2500 | 2 W | 4 Ver. | G-K |
| Aultman-Taylor | 18 | 30 | .... | ..... | ..... | ..... |
| Avery—14-28 | 14 | 28 | .... | 2 W | 4 Hor. | G-K |
| Avery—18-36 | 18 | 36 | .... | 2 W | 4 Hor. | G-K |
| Best—30 | 20 | 30 | 3250 | 2 Cr. | 4 Ver. | G-K |
| Caterpillar—F11 | 25 | .. | .... | 2 Cr. | 4 Ver. | G |
| De Pue—20-30 | 20 | 30 | 2500 | 4 W | 4 Ver. | G |
| Farquhar | 18 | 35 | .... | 2 W | 4 Ver. | G-K |
| Fitch—20-35 | 20 | 35 | .... | 4 W | 4 Ver. | G-K |
| Hart-Parr—30 | 15 | 30 | .... | 2 W | 2 Hor. | G-K |
| International | 15 | 30 | .... | 2 W | 4 Hor. | K |
| Liberty—A | 18 | 32 | 2475 | 2 W | 4 Ver. | G-K |
| Oil Pull | 16 | 30 | .... | 2 W | 4 Hor. | G-K |
| Pioneer—G | 18 | 36 | .... | 2 W | 4 Hor. | G-K |
| Sandusky—E | 15 | 35 | .... | 2 W | 4 Ver. | G-K |
| Stinson—4E | 18 | 36 | .... | 2 W | 4 Ver. | G-K |

## Five and Six Plows

| Name and Model | Draw-bar H.P. | Belt H.P. | Price | Traction | Cylinders | Fuel |
|---|---|---|---|---|---|---|
| Aultman-Taylor | 22 | 45 | .... | 2 W | 4 Hor. | G-K |
| Avery | 25 | 50 | .... | 2 W | 4 Hor. | G-K |
| Case | 22 | 40 | .... | 2 W | 4 Ver. | G-K |
| Caterpillar—T16 | 40 | .. | .... | 2 Cr. | 4 Ver. | G-D |
| Farquhar | 25 | 50 | .... | 2 W | 4 Ver. | G-K |
| Oil Pull | 20 | 40 | .... | 2 W | 4 Hor. | D-D |
| Twin City | 20 | 35 | .... | 2 W | 4 Ver. | G-K |

## Eight Plows and Over

| Name and Model | Draw-bar H.P. | Belt H.P. | Price | Traction | Cylinders | Fuel |
|---|---|---|---|---|---|---|
| Aultman-Taylor | 30 | 60 | .... | 2 W | 4 Hor. | G-K |
| Avery | 45 | 65 | .... | 2 W | 4 Hor. | G-K |
| Best Sixty | 35 | 60 | 5750 | 2 Cr. | 4 Ver. | G-K |
| Imperial—E | 40 | 70 | 5000 | 2 W | 4 Hor. | G-D |
| Lombard—1921 | .. | .. | .... | 2 Cr. | 6 Ver. | G |
| Oil Pull | 30 | 60 | .... | 2 W | 2 Hor. | K-D |
| Pioneer | 30 | 60 | .... | 2 W | 4 Hor. | G |
| Twin City | 40 | 65 | .... | 2 W | 4 Ver. | G-K |

# Windshield Glass Sizes

## *FOR PASSENGER CARS—Touring Models*

### *Motor Age Maintenance Data Sheet No. 134*

One of a series of weekly pages of information valuable to service men and dealers—save this page

*The windshield glass sizes for roadsters, sedans and coupes will be published in the coming issues of* MOTOR AGE.

| Name and Model | Upper Glass | | | | Lower Glass | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| | Height | Length | Thickness | Curved Plate? | Height | Length | Thickness | Curved Plate? | |
| Allen, 43 | 11¼ | 37 | ¼ | No | 8 | 37 | ¼ | Yes | |
| American, C60 | 7 15/16 | 39 3/16 | 3/16 | .... | 4¾ | 39 3/16 | 3/16 | .... | |
| American Beauty | 8¾ | 37½ | ⅛ | No | 9½ | 37½ | ⅛ | Yes | |
| Anderson, S40 | 7¾ | 37¾ | ¼ | No | 10¼ | 37¾ | ¼ | No | |
| Apperson, 821 | 10 | 40 | ¼ | No | 10 | 40 | ¼ | Yes | |
| Auburn, 6-39 | 9⅛ | 36½ | ¼ | No | 9 | 36½ | ¼ | Yes | |
| Bour Davis, 21 | 10 | 36 | 3/16 | No | 8 | 36 | 3/16 | Yes | |
| Brewster | All | Bre | wster | bod | ies cu | stom | made | | |
| Briscoe, 4-34 | 8 | 36 | 7/32 | No | 12 | 36 | 7/32 | Yes | |
| Buick, 1921 | 10 | 40¾ | 7/32 | No | 9½ | 40¾ | 7/32 | Yes | |
| Case, "V" | 10 | 39 15/16 | ¼ | No | 8 7/16 | 39 15/16 | ¼ | No | |
| Chalmers, 35 B & C | 8½ | 38 | 5/16 | No | 7¾ | 38 | 5/16 | Yes | |
| Chandler | 9 3/16 | 39⅛ | ¼ | No | 9 7/32 | 39⅛ | ¼ | Yes | |
| Chrevolet, FB | 10 | 38 | 7/32 | No | 7 15/16 | 38 | 7/32 | .... | |
| Cleveland, 40 | 8 | 38 | ¼ | No | 10 | 38 | ¼ | Yes | |
| Climber, S | 16 | 38 | ¼ | Yes | .... | .... | .... | .... | Single glass |
| Cole, Aero 8 | 7 1/16 | 37 1/16 | 5/16 | No | 8 15/16 | 37 1/16 | 5/16 | Yes | |
| Columbia Six | 8 | 36 | 7/32 | No | .... | 36 | 7/32 | Yes | |
| Commonwealth, 45 | 9 | 38 | ¼ | No | 7¼ | 38 | ¼ | Yes | |
| Cunningham, 59A | 8 | 42 | ¼ | .... | 12 | 44 | ¼ | .... | |
| Daniels, D, 9 | 11 | 41 | 5/16 | No | 6¼ | 41 | 5/16 | No | |
| Davis | 10 | 38 | 5/16 | No | 8 | .... | 5/16 | Yes | |
| Dodge Bros | 10 9/16 | 39 5/16 | 7/32 | No | 9 5/8 | 39 5/16 | 7/32 | No | |
| Dort, 15 | 10 | 35 5/16 | ¼ | No | 7 5/16 | 35 5/16 | ¼ | No | |
| Dixie, H. S. 7,000 | 12 | 35 5/8 | 5/16 | No | 8 | 35 3/8 | 5/16 | No | |
| Dorris, 680 | 8 | 37¾ | ¼ | No | .... | 37¾ | .... | Yes | |
| Essex, A | 8 29/32 | 36 1/8 | 7/32 | No | 6 23/64 | 36¾ | 5/32 | .... | |
| Ferris, C21 | 9 5/8 | 37½ | ¼ | No | 6¼ | 37½ | ¼ | Yes | |
| Franklin, 9B | 8 5/8 | 40 | 5/16 | No | 7⅛ | 40 | 5/16 | No | |
| Ford, T | 10 1/32 | 37 61/64 | ¼ | No | 12 1/32 | 37 61/64 | ¼ | No | |
| Gardner, G | 8 | 36 | 5/16 | No | 10 | 36 | 5/16 | Yes | |
| Geronimo, A45 | 9 | 38 | 5/16 | No | 8 | 38 | 5/16 | Yes | |
| Grant | 10 | 36 | 5/16 | No | 8 | 36 | 5/16 | Yes | |
| Hanson, 54-60 | 10 | 38 | 5/16 | No | 6 | 38 | 5/16 | No | |
| Halladay, M. S. | .... | .... | .... | .... | .... | .... | .... | .... | |
| Hatfield, A42 | .... | .... | .... | .... | .... | .... | .... | .... | |
| Haynes, L. Six | 8¾ | 37 5/8 | 5/16 | No | 8 5/32 | 37 5/8 | 5/16 | No | |
| Haynes, L. 12 | .... | .... | .... | .... | .... | .... | .... | .... | |
| Holmes, 1921 | 10½ | 42 | ¼ | No | 6½ | 42 | ¼ | Yes | |
| Hudson, 110 | 11 | 39⅛ | ¼ | .... | 9 31/32 | 39⅛ | ¼ | .... | |
| Huffman, R | 9¾ | 37½ | ¼ | No | 9¾ | 37½ | ¼ | Yes | |
| Hupmobile, R5 | 10 | 38 | ¼ | No | 8 | 38 | ¼ | Yes | |
| Jordan, M | 7 51/64 | 39 9/32 | 7/32 | No | 5 3/64 | 39 9/32 | 7/32 | No | |
| La Fayette, 134 | 7 | 39½ | 5/16 | No | 4 | 39½ | 5/16 | No | |
| Leach Biltwell | 16 | 40 | 5/16 | No | .... | .... | .... | .... | Single glass |
| Liberty, 10C | 8 | 38 | ¼ | No | 8⅜ | 38 | ¼ | No | |
| Locomobile | 7 5/16 | 42½ | 3/16-7/32 | No | 11½ | 42½ | 3/16-7/32 | Yes | |
| Lorraine, 21T | 9 | 36 | .... | .... | 8 | 36 | .... | .... | |
| Maibohn, B | 8¼ | 39¼ | 3/16 | No | 5⅝ | 39¼ | 3/16 | No | |
| Marmon, 34 | 6 23/32 | 42 5/8 | 3/16 | No | 10 5/16 | 42 5/8 | 3/16 | Yes | |
| Maxwell, 25 | 9½ | 35⅞ | ¼ | No | 7¾ | 36 | ¼ | Yes | |
| McFarlan, 147 | 10 | 42 | .... | No | 8 | 42 | .... | Yes | |

| Name and Model | Upper Glass | | | | Lower Glass | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| | Height | Length | Thickness | Curved Plate? | Height | Length | Thickness | Curved Plate? | |
| Mercer, Series 5 | 8 | 40 15/32 | 7/32 | No | 7 27/32 | 40 15/32 | 7/32 | Yes | |
| Metz, M, Six | 10¼ | 34 15/16 | ¼ | No | 8 | 34 15/16 | ¼ | Yes | |
| Mitchell, F40 | 9⅛ | 38 | 3/16 | No | 10 | 38 | 3/16 | Yes | |
| Moon, 6-48 | 8 | 38 | ¼ | No | 8 | 38 | ¼ | Yes | |
| Monroe, S-9-10 | 10 | 33 | 5/16 | No | 8 | 33 | 5/16 | Yes | |
| Nash, 681-2 | 10 | 37 7/16 | 3/16 | No | 8 | 37 7/16 | 3/16 | No | |
| National Sextett | 8⅝ | 39⅛ | 3/16 | .... | 8 | 37⅛ | 3/16 | .... | |
| Nelson, E | 12 | 41 | ¼ | .... | .... | .... | .... | .... | Single glass |
| Nona, C | 13 | 34 | 3/16 | Yes | .... | .... | .... | .... | Single glass |
| Norwalk, 430-KS | 9 | 38⅜ | 3/16 | .... | 7 | 38⅜ | 3/16 | Yes | |
| Oakland, 34C | 10 | 36 | 5/16 | No | 8 | 36 | 5/16 | No | |
| Ogren, 6-60 | 9 | 39½ | 5/16 | No | 8 | 39½ | 5/16 | Yes | |
| Oldsmobile, 45B | 7¾ | 32 | 7/32 | No | 9½ | 32 | 7/32 | No | |
| Oldsmobile, 37A | 7¾ | 31 | 7/32 | No | 8 | 31 | 7/32 | No | |
| Olympian, 45 1st 43,000 | 10 | 35 | ¼ | No | 7⅞ | 35 | ¼ | Yes | |
| | 9 | 36 | ¼ | No | 10 | 36 | ¼ | Yes | 1st 43,000 |
| Overland, 4, after 43,000 | 10 | 36 | ¼ | No | 8 | 36 | ¼ | Yes | After 43,000 |
| Packard, 335 | 8 49/64 | 42 19/32 | 3/16-¼ | No | 9 47/64 | 39¾ | 3/16-¼ | Yes | |
| Paige, 642 | .... | .... | .... | .... | .... | .... | .... | .... | |
| Paige, 666 | .... | .... | .... | .... | .... | .... | .... | .... | |
| Paterson, 650 | 8½ | 38 | 5/16 | No | 7½ | 38 | 5/16 | Yes | |
| Peerless, 56, S6 | 9 7/32 | 41 7/16 | ¼ | No | .... | 41 7/16 | ¼ | Yes | |
| Piedmont, 4-30 | 10 | 38 | ¼ | No | 8 | 38 | ¼ | Yes | |
| Piedmont, 6-40 | .... | .... | .... | No | .... | .... | .... | .... | |
| Pierce Arrow, 31 & 51 | 12 3/16 | 45 7/8 | ¼ | No | 5 5/16 | 45 7/8 | ¼ | .... | |
| Pan, A | 10 | 39¼ | ¼ | No | 6¼ | 39¼ | ¼ | Yes | Center |
| | | | | | 11 | .... | .... | .... | Side |
| Porter, 46 | 14½ | 44½ | .... | No | .... | 44½ | .... | Yes | |
| Premier, 6-D | 9 23/32 | 43 11/16 | 3/16 | No | 8 5/8 | 44 | 3/16 | Yes | |
| Reo, T6 | 8 31/32 | 38 11/16 | .... | No | 8 31/32 | 38 11/16 | .... | Yes | |
| Revere, Series F | 9 5/8 | 37⅛ | 7/32 | No | 4 7/8 | 37⅛ | 7/32 | Yes | |
| Rock Falls No. 12 | Do n | ot m | anuf | actu | re op | en ca | rs | | |
| R. & V. Knight | 10½ | 40 | ¼ | Yes | 5 | 40 | ¼ | Yes | |
| Saxon, 125 | 9 9/16 | 38 | 7/32 | No | 8 5/16 | 38 | 7/32 | No | |
| Scripps Booth, B39 | 9 1/16 | 35 7/16 | ¼ | No | 8 | 35 7/16 | ¼ | No | |
| Seneca, L20 | 10½ | 37 | 5/16 | No | 8⅜ | 37 | 5/16 | Yes | |
| Skelton, 35 | 9¼ | 40 | 5/16 | No | 9½ | 40 | 5/16 | No | |
| Stephens, 80 | 9¼ | 40 | ¼ | No | 7¼ | 40 | ¼ | Yes | |
| Studebaker, EJ | 9⅜ | 36¾ | ¼ | No | 7¼ | 36¾ | ¼ | Yes | 4½ high at center |
| Studebaker, EH | 9½ | 37 | ¼ | No | 7½ | 37 | ¼ | Yes | 5⅝ high at center |
| Studebaker, EG | 10¼ | 38 | ¼ | No | 3⅜ | 38 | ¼ | No | |
| Templar, 445 | 14 | 35 | 5/16 | No | .... | 35 | 5/16 | Yes | |
| Texan, A, B-38 | 10 | 33¾ | ¼ | No | 7¾ | 33¾ | ¼ | Yes | |
| Velie, 34 | 12 | 37 15/16 | 3/16 | .... | 8 | 37 15/16 | 3/16 | .... | |
| Velie, 38 | 12 | 37 15/16 | 3/16 | .... | 8 | 37 15/16 | 3/16 | .... | |
| Westcott, C38 | 10 | 36⅜ | 5/16 | No | 7⅜ | 36⅜ | 5/16 | Yes | |
| Winther, 61 | 9 | 36 | 7/32 | No | 9 7/16 | 36 | 7/32 | Yes | |
| Winton, 25 | 10 | 39¾ | 5/16 | No | 6½ | 39¾ | 5/16 | No | |
| Wasp, 2011 | 7½ | 40¼ | ¼ | No | 11¼ | 40¼ | ¼ | Yes | |
| Westcott, C-48 | 10 | 40⅜ | 5/16 | No | 7 | 40⅜ | 5/16 | Yes | |

# Motor Age Farm-Lighting Specification Tables

| Name and Model | Make | Watts Capacity | No. 20 watt lamps | Lamp voltages | No. cyl'ds | No. cycles | Make of engine | Horsepower | Fuel | Cooling | Power pulley | Generator drive | Make of generator | Make of battery | Battery amp. hours | Battery, volt. | No. cells | Starting engine | Stopping engine | Governor type | Price |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aerothrust | Aerothrust Engine Co., La Porte, Ind. | ..... | 15–25 | ... | 2 | 2 | ..... | 3 | ..... | Air | Opt. | Shaft | ..... | ..... | 60 | 28–42 | ..... | ..... | ..... | ..... | ..... |
| Alamo | Alamo Farm Light Co., Chicago | 1000 | 75–120 | 40 | 1 | 4 | Ida | 2 | ..... | Water | ..... | Direct | ..... | ..... | ..... | ..... | 16 | ..... | ..... | Throttle | ..... |
| Cushman, A | Cushman Motor Works, Lincoln, Neb. | 1000 | 26–76 | 32 | 1 | 4 | Own | 4 | G | Water | Yes | Belt | Imperial | Universal | 130 | 32 | 16 | S-Auto | S-Auto | Throttle | ..... |
| C | | 1000 | 35–85 | 32 | 1 | 4 | Own | 4 | G | Water | Yes | Belt | Imperial | Universal | 175 | 32 | 16 | S-Auto | S-Auto | Throttle | ..... |
| E | | 1000 | 52–102 | 32 | 1 | 4 | Own | 4 | G | Water | Yes | Belt | Imperial | Universal | 260 | 32 | 16 | S-Auto | S-Auto | Throttle | ..... |
| 60-volt | | 2000 | 100 | 60 | 1 | 4 | Own | 4 | G | Water | Opt. | Belt | Imperial | Universal | ..... | 60 | 30 | ..... | S-Auto | Throttle | ..... |
| 110-volt | | 12500 | 625 | 110 | 2 | 4 | Own | 20 | G-K | Water | Opt. | Belt | Imperial | Universal | ..... | 110 | 56 | ..... | S-Auto | Throttle | ..... |
| Delco-Light, 508 | Delco-Light Co., Dayton, Ohio | 500 | 25 | 32 | 1 | 4 | Own | 1 | G-K-G | Air | No | Direct | Own | Exide | 80 | 32 | 16 | S-Auto | Auto | Battery | ..... |
| 516 | | 500 | 25 | 32 | 1 | 4 | Own | 1 | G-K-G | Air | No | Direct | Own | Exide | 160 | 32 | 16 | S-Auto | Auto | Battery | ..... |
| 216 | | 750 | 37 | 32 | 1 | 4 | Own | 1½ | G-K-G | Air | No | Direct | Own | Exide | 160 | 32 | 16 | S-Auto | Auto | Battery | ..... |
| 1016 | | 1000 | 50 | 32 | 1 | 4 | Own | 2½ | G-K-G | Air | No | Direct | Own | Exide | 160 | 32 | 16 | S-Auto | Auto | Battery | ..... |
| 320 | | 2500 | 125 | 110 | 1 | 4 | Own | 5 | G-K-G | Air | No | Direct | Own | Exide | 160 | 112 | 56 | S-Auto | Auto | Battery | ..... |
| 332 | | 3000 | 150 | 32 | 1 | 4 | Own | 5 | G-K-G | Air | No | Direct | Own | Exide | 160 | 32 | 16 | S-Auto | Manual | Electric | ..... |
| Dyneto, L-4-F-160 | Dyneto Electric Corp., Syracuse, N. Y. | 1250 | 16–66 | ... | 1 | ... | New Way | 4 | G | Air | Yes | Chain | Own | ..... | 160 | 32 | 16 | S-Auto | S-Auto | Throttle | 700 |
| Everlite | Black Swan Co., Minneapolis, Minn. | 1000 | 75–150 | 32 | 1 | 4 | Own | 3 | G & K | Water | Yes | Direct | West. | Phila. | 95-275 | 32 | 16 | S-Auto | Auto | Throttle | 540–670 |
| 5KW | | 5000 | 250 | 32 | 4 | 4 | Le Roi | 12 | G. | Water | No | Direct | Imperial | Phila. | 94-277 | 32 | 16 | S-Auto | Auto | Throttle | ..... |
| Fairbanks-Morse, F-1½ | Fairbanks-Morse & Co., Chicago | 600 | 40 | 32 | 1 | 4 | Own | 1½ | K | Water | Yes | Belt | Own | ..... | ..... | 36 | 16 | S-Auto | Manual | Throttle | ..... |
| F-3-65 | | 900 | 65 | 32 | 1 | 4 | Own | 3 | K | Water | Yes | Belt | Own | ..... | 120 | 32 | 16 | S-Auto | Manual | Throttle | ..... |
| F-3-100 | | 1500 | 100 | 32 | 1 | 4 | Own | 3 | K | Water | Yes | Belt | Own | ..... | 160 | 32 | 16 | S-Auto | Manual | Throttle | ..... |
| F-6 | | 3500 | 200 | 32 | 1 | 4 | Own | 6 | K | Water | Yes | Belt | Own | ..... | 200 | 32 | 16 | S-Auto | Manual | Throttle | ..... |
| Fairmont, B-4 | Fairmont Gas E. & R. M. Co., Fairmont, Minn. | ..... | 50 | 32 | 1 | 2 | Own | 4 | G & K | Water | Yes | Belt | W. E. | Edison | 80 | 32 | 24 | S-Auto | Manual | Throttle | 595 |
| Genco Light, A | General Gas-Electric Co., Hanover, Pa. | 1000 | 22–73 | 32 | 1 | 4 | Own | 2½ | K | Water | Yes | Direct | Own | Own | 110 | 32 | 16 | S-Auto | Auto | ..... | ..... |
| B | | 1000 | 36–87 | 32 | 1 | 4 | Own | 2½ | K | Water | Yes | Direct | Own | Own | 167 | 32 | 16 | S-Auto | Auto | ..... | ..... |
| C | | 3000 | 155–205 | 110 | 2 | 4 | Own | 5 | G & K | Water | Yes | Direct | ..... | Own | 110 | 110 | 54 | S-Auto | Auto | ..... | ..... |
| D | | 3000 | 204–243 | 110 | 2 | 4 | Own | 5 | G & K | Water | Yes | Direct | ..... | Own | 167 | 110 | 54 | S-Auto | Auto | ..... | ..... |
| D-Light | H. C. Dodge, Inc., Boston | 350 | 25 | 32 | 1 | 4 | Own | 1 | G | Air | Opt. | Direct | Own | ..... | 50 | 32 | 16 | S-Auto | S-Auto | ..... | ..... |
| Holt Power-Light, 110-volt | Automatic Light Co., Inc., Ludington, Mich. | 750 | 37 | 110 | 1 | 4 | Own | 1.7 | G | Water | ..... | Direct | G.E. | Columbia | 86 | 6 | 3 | Auto | Auto | Electro-sole | 490 |
| Fairbanks-Morse | Fairbanks Morse Co., Chicago | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Homelight 1½ | | 600 | ..... | 32 | 1 | 4 | Own | 1½ | G & K | Water | Yes | Belt | Own | G-S | 60 | 32 | 16 | S-Auto | Manual | Throttle | ..... |
| 3 | | 1500 | ..... | 32 | 1 | 4 | Own | 3 | G & K | Water | Yes | Belt | Own | G-S | 160 | 32 | 16 | S-Auto | Manual | Throttle | ..... |
| F 6 | | 3500 | ..... | 32 | 1 | 4 | Own | 6 | G & K | Water | Yes | Belt | Own | G-S | 200 | 32 | 16 | S-Auto | Manual | Throttle | ..... |
| Independent, A | Independent Light & Power Co., Oelwein, Iowa | 1000 | 50 | 32 | 1 | 4 | Own | 4 | G-K-G | Water | Yes | Gear | Own | Phila | 140-275 | 32 | 16 | S-Auto | Manual | Throttle | ..... |
| B | | 1500 | 75 | 32 | 1 | 4 | Own | 4 | G-K-G | Water | Yes | Gear | Own | Phila. | 140-275 | 32 | 16 | S-Auto | Manual | Throttle | ..... |
| C | | 1500 | 75 | 32 | 1 | 4 | Own | 4 | G-K-G | Water | Yes | Gear | Own | Phila. | 140-275 | 32 | 16 | S-Auto | Manual | Throttle | ..... |
| Jupiter, 3 | Perfection Storage Battery Co., Chicago | 600 | 27 | 32 | 1 | 4 | Opt. | 2 | K | Water | Yes | Belt | Own | Own | 80 | 32 | 16 | S-Auto | S-Auto | Throttle | *335 |
| 6 | | 1600 | 67 | 60 | 1 | 4 | Opt. | 4 | K | Water | Yes | Belt | Own | Own | 80 | 60 | 32 | S-Auto | S-Auto | Throttle | *610 |
| Kohler | Kohler Automatic, Kohler, Wis. | 1500 | 75 | 110 | 4 | 4 | Own | 3½ | G | Water | No | Direct | Own | Exide | ..... | ..... | ..... | Auto | Auto | Throttle | 750 |
| Lalley Light | Lalley Light Corp, Detroit | 1250 | 62 | 32 | 1 | 2 | Own | 2½ | G | Water | ..... | Direct | ..... | Willard | 115 | 32 | 16 | Manual | S-Auto | Throttle | 595 |
| | | 1250 | 65 | 32 | 1 | 2 | Own | 2½ | G | Water | No | Direct | R. & M. | Willard | 80-115 | 32 | 16 | S-Auto | S-Auto | Flyball | 595 |
| Lauson-Edison, 201 | John Lauson Mfg. Co., New Holstein, Wis. | 800 | 730 | 50 | 1 | 4 | Opt. | 2½ | Opt. | Water | Opt. | Belt | Own | Edison | 38 | 50 | 26 | Manual | Manual | Throttle | ..... |
| 202-30 | | 400 | 16–50 | 50 | 1 | 4 | Opt. | 2½ | Opt. | ..... | Opt. | Belt | ..... | Edison | 75 | 52 | 26 | Manual | Manual | Throttle | ..... |
| 206-110 | | 3500 | 27–154 | 25 | 1 | 4 | Opt. | 4½ | Opt. | ..... | Opt. | Belt | ..... | Edison | 38 | ..... | 94 | Manual | Manual | Throttle | ..... |
| Lauson Junior, 300 | | 500 | 10–25 | 30 | 1 | 4 | Opt. | 1½ | Opt. | ..... | Opt. | Belt | Own | ..... | 40 | 30 | 15 | Manual | Manual | Throttle | ..... |
| 301 | | 800 | 15–40 | 30 | 1 | 4 | Opt. | 1½ | Opt. | ..... | Opt. | Belt | Own | ..... | 60 | 30 | 15 | Manual | Manual | Throttle | ..... |
| Langstadt-Meyer, D-¾ | Langstadt-Meyer Co., Appleton, Wis. | 750 | 37 | 32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | Belt | Imperial | Willard | 112-196 | 32 | 16 | ..... | ..... | ..... | ..... |
| D-1 | | 1000 | 50 | 32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | Belt | Imperial | Willard | 112-196 | 32 | 16 | ..... | ..... | ..... | ..... |
| D-1½ | | 1500 | 75 | 32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | Belt | Imperial | Willard | 112-196 | 32 | 16 | ..... | ..... | ..... | ..... |
| D-3 | | 3000 | 150 | 110 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | Belt | Imperial | Willard | 112-196 | 110 | 56 | ..... | ..... | ..... | ..... |
| D-4 | | 4000 | 200 | 110 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | Belt | Imperial | Willard | 112-196 | 110 | 56 | ..... | ..... | ..... | ..... |
| D-5 | | 5000 | 250 | 110 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | Belt | Imperial | Willard | 112-196 | 110 | 56 | ..... | ..... | ..... | ..... |
| D-6 | | 6000 | 300 | 110 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | Belt | Imperial | Willard | 112-196 | 110 | 56 | ..... | ..... | ..... | ..... |
| B-1½ | | 1500 | 75 | 32 | 1 | 4 | Own. | 4 | G & K | Water | Yes | Direct | Imperial | Willard | 112-196 | 32 | 16 | S-Auto | Auto | Throttle | ..... |
| B-1½ | | 1500 | 75 | 110 | 1 | 4 | Own | 4 | G & K | Water | Yes | Direct | Imperial | Willard | 112-196 | 112 | 56 | S-Auto | Auto | Throttle | ..... |
| 2C-4 | | 4000 | 200 | 110 | 4 | 4 | Le Roi | 8 | G & K | Water | No | Direct | Imperial | Willard | 112-196 | 112 | 56 | S-Auto | Auto | Throttle | ..... |
| 2C-6 | | 6000 | 300 | 110 | 4 | 4 | Le Roi | 12 | G & K | Water | No | Direct | Imperial | Willard | 112-196 | 112 | 56 | S-Auto | Auto | Throttle | ..... |
| Main-Power-Light, MCF | Main Electric Co., Cleveland | 500 | 25 | 32 | 1 | 4 | Opt. | 1½ | Opt. | Water | Yes | Belt | Own | Own | 90 | 32 | 16 | Manual | Manual | Throttle | 290 |
| I-CF | | 800 | 40 | 32 | 1 | 4 | Opt. | 3 | Opt. | Water | Yes | Belt | Own | Own | 90 | 32 | 16 | Manual | Manual | Throttle | 390 |
| I-CXF | | 1000 | 50 | 32 | 1 | 4 | Opt. | 3 | G & K | Water | Yes | Belt | Own | Own | 140 | 32 | 16 | Manual | Manual | Throttle | 490 |
| DC-1000 | | 1000 | 50 | 32 | 1 | 2 | Own | 2 | G & K | Water | Yes | Direct | Own | G. L. B. | 90 | 32 | 16 | S-Auto | S-Auto | Throttle | 485 |
| 3-EF | | 2000 | 100 | 32 | 1 | 4 | Opt. | 5 | G & K | Water | Yes | Belt | Own | Opt. | 235 | 32 | 16 | S-Auto | S-Auto | Throttle | 690 |
| 13-CF | | 2500 | 100 | 32 | 1 | 4 | Opt. | 5 | Opt. | Water | Yes | Belt | Own | Opt. | 235 | 110 | 16 | Manual | Manual | Throttle | 790 |
| Marco | Marco Light & Power Corp., Chicago | 1500 | 95–107 | 32 | 1 | 4 | New Way | 5 | Opt. | Air | Yes | Chain | Dyneto | Own | 112-150 | 32 | 16 | S-Auto | S-Auto | Throttle | 675-705 |
| Matthews, H | Matthews Engineering Co., Sandusky, Ohio | 300 | 15 | 32 | 1 | 4 | Own | 1 | G | Water | No | Direct | Own | Willard | 53-72 | 32 | 16 | Auto | Auto | ..... | 425 |
| JR | | 1000 | 50 | 32 | 1 | 4 | Own | 3 | G | Water | No | Direct | G. E. | Willard | 80 | 32 | 16 | Auto | Auto | Electro-mag. | 745 |
| B | | 2000 | 100 | 32 | 2 | 4 | Own | 7 | G | Water | No | Direct | G. E. | Willard | 160 | 32 | 16 | Auto | Auto | Electro-mag. | ..... |
| E | | 6000 | 300 | 110 | 4 | 4 | Own | 18 | G | Water | No | Direct | G. E. | Willard | 126 | 110 | 56 | Auto | Auto | Electro-mag. | ..... |
| G | | 10000 | 500 | 110 | 4 | 4 | Own | 25 | G | Water | No | Direct | G. E. | Willard | ..... | ..... | ..... | Manual | Manual | Flyball | ..... |
| Mayhew, K-1 | Mayhew Co., Milwaukee, Wis. | 1000 | 12–58 | 32 | 1 | 4 | ..... | ... | G | Water | Yes | Direct | Western | ..... | 80 | 32 | 16 | S-Auto | Manual | Flyball | 475 |
| K-2 | | 1000 | 22–78 | 32 | 1 | 4 | ..... | ... | G | Water | Yes | Direct | Western | ..... | 125 | 32 | 16 | S-Auto | Manual | Flyball | 510 |
| K-3 | | 1000 | 30–97 | 32 | 1 | 4 | ..... | ... | G | Water | Yes | Direct | Western | ..... | 160 | 32 | 16 | S-Auto | Manual | Flyball | 550 |
| National, I-K | National Elec. Lighting Co., Wilton Junction, Ia. | 1000 | 50 | 32 | 1 | ... | New Way | 5½ | G & K | Air | Yes | Chain | G-E | Victor | 120 | 32 | 16 | ..... | Auto | Throttle | 550 |
| 1½-K | | 1500 | 75 | 32 | 1 | ... | New Way | 5½ | G & K | Air | Yes | Chain | G-E | Victor | 160 | 32 | 16 | ..... | Auto | Throttle | 650 |
| 2-K | | 2000 | 100 | 32 | 1 | ... | New Way | 5½ | G & K | Air | Yes | Chain | G-E | Victor | 160 | 110 | 56 | ..... | Auto | Throttle | 1500 |
| Owen | R. M. Owen & Co., Chicago | 1280 | 64 | 32 | 1 | 4 | Own | 3½ | G | Water | ..... | Direct | Own | ..... | 80 | 32 | 16 | Auto | Auto | Flyball | 585 |

*Without engine. Opt., Optional. S-Auto., Semi-Automatic. K. Kerosene.G, Gasoline. Electro-Mag., Electro-Magnetic. A-L., Auto-Lite. West., Westinghouse. R. & M., Robbins & Myers. †8 h. rating.

# Motor Age Farm-Lighting Specification Tables—Continued

| Name and Model | Maker | Watts Capacity | No. 20 watt lamps | Lamp voltages | No. cyl'ds | No. cycles | Make of engine | Horsepower | Fuel | Cooling | Power pulley | Generator drive | Make of generator | Make of battery | Battery amp. hours | Battery, volt. | No. cells | Starting engine | Stopping engine | Governor type | Price |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Perfection, | 8A-1 | 1200 | 50 | 32 | 1 | 4 | Own | 3½ | A-G-K | Water | Yes | Direct | Dyneto | Own | 80 | 32 | 16 | Auto | Auto | Voltage | 655 |
| | 8A-8 | 1200 | 50 | 65 | 1 | 4 | Own | 3½ | A-G-K | Water | Yes | Direct | Dyneto | Own | 80 | 65 | 32 | Auto | Auto | Voltage | 845 |
| | 8A-12 | 1200 | 50 | 110 | 1 | 4 | Own | 3½ | A-G-K | Water | Yes | Direct | Dyneto | Own | 80 | 110 | 56 | Auto | Auto | Voltage | 1100 |
| | 8AR-1 | 1500 | 70 | 32 | 1 | 4 | Own | 4 | G-K | Water | Yes | Direct | Hobert | Own | 80 | 32 | 16 | S-Auto | Auto | Voltage | 725 |
| | 8AR-6 | 1500 | 70 | 65 | 1 | 4 | Own | 4 | G-K | Water | Yes | Direct | Hobert | Own | 40 | 65 | 32 | S-Auto | Auto | Voltage | 800 |
| | 8AR-12 | 1500 | 70 | 110 | 1 | 4 | Own | 4 | G-K | Water | Yes | Direct | Hobert | Own | 80 | 110 | 56 | S-Auto | Auto | Voltage | 1150 |
| Fowerlite, | 163-L-66 | 1000 | 50–85 | 32 | 1 | 4 | Own | 3 | G & K | Water | Yes | Direct | Own | Own | 80–120 | 32 | 16 | S-Auto | Auto | ..... | 450 |
| | 163-L-72 | 1000 | 50–120 | 32 | 1 | 4 | Own | 3 | G & K | Water | Yes | Direct | Own | Own | 160–240 | 32 | 16 | S-Auto | Auto | ..... | 530 |
| | 163-B-81 | 1000 | 50–85 | 32 | 1 | 4 | Own | 2½ | Any | Water | Yes | Belt | Imperial | Own | 80–120 | 32 | 16 | S-Auto | Manual | Throttle | 263 |
| | 163-B-87 | 1000 | 50–120 | 32 | 1 | 4 | Own | 2½ | Any | Water | Yes | Belt | Imperial | Own | 160–240 | 32 | 16 | S-Auto | Manual | Throttle | 343 |
| Radiant, | | 300 | 20 | 32 | 1 | 4 | Own | ½ | G | Water | No | Direct | G-E | Willard | 80 | 32 | 16 | Manual | Manual | Battery | 445 |
| Robaco, | Unit | 1500 | 75 | 32 | 1 | 4 | Own | 3½ | Opt. | Water | Yes | Direct | ..... | National | 75–250 | 32 | 16 | S-Auto | Manual | Flyball | 645 |
| | B-1 | 800 | 50–120 | 32 | 1 | 4 | Own | 2 | Opt. | Water | Yes | Belt | ..... | National | 75–170 | 32 | 16 | S-Auto | Manual | Flyball | 350 |
| | B-2 | 1500 | 75 | 32 | 1 | 4 | Own | 3 | Opt. | Water | Yes | Belt | ..... | National | 170–250 | 32 | 16 | S-Auto | Manual | Flyball | 450 |
| Sunbeam, Farm-Lite. | | 650 | 32 | 32 | 1 | 4 | Own | 1½ | G | Water | Yes | Direct | Own | U.S.L. | 75 | 30 | 14 | Auto | Auto | Electro-mag. | 385 |
| Sunnyhome | | 1500 | 75 | 110 | 1 | 4 | Own | ... | G | Air | No | Direct | Own | Imperial | ..... | 110 | 54 | Auto | Auto | ..... | ..... |
| Swanlite | | 1250 | 75–150 | 32 | 1 | 4 | Own | 3½ | Opt. | Water | Yes | Direct | Own | Phils. | 95–295 | 32 | 16 | S-Auto | S-Auto | Throttle | ..... |
| Swarts, | Unit | 1000 | 50 | 30 | 1 | 2 | Own | 2½ | G | Water | No | Direct | Own | Opt. | 80–160 | 32 | 16 | S-Auto | Manual | Electro-mag. | 556 |
| | E | 1500 | 50 | 30 | 1 | 4 | Own | 2½ | G & K | Water | Yes | Belt | Own | Opt. | 80–210 | 32 | 16 | S-Auto | Manual | Flyball | ..... |
| | F | 2000 | 100 | 60 | 1 | 4 | Own | 5 | G & K | Water | Yes | Belt | Own | Opt. | 80–210 | 64 | 32 | S-Auto | Manual | Flyball | ..... |
| | G | 2750 | 137 | 110 | 1 | 4 | Own | 5 | G & K | Water | Yes | Belt | Own | Opt. | 80–210 | 64 | 32 | S-Auto | Manual | Flyball | ..... |
| Syco, | | 1000 | 62–70 | 32 | 1 | 4 | Own | 3 | G | Water | Yes | Direct | ..... | ..... | 90–160 | 32 | 16 | S-Auto | Throttle | ..... | ..... |
| Uni-Electric, 1 KW | | 1000 | 50 | 110 | 1 | ... | Own | ... | G | Water | No | Direct | Roth | Willard | ..... | 6 | 3 | S-Auto | S-Auto | Voltage | 563.50 |
| Universal, 8-½ KW | | 500 | 17 | 32 | 1 | 4 | Own | ... | G | Water | No | Direct | Own | ..... | 60–75 | 32 | 16 | S-Auto | Auto | Throttle | 380 |
| | 1-KW | 1000 | 75–120 | 32 | 1 | 4 | Own | ... | G | Water | ... | Direct | Own | ..... | 90–130 | 32 | 16 | S-Auto | Auto | ..... | 495 |
| West. Elect., | 15-DC-90 | 1500 | 75 | 32 | 1 | 4 | Own | 3¼ | K | Air | Yes | Direct | Own | Own | †90 | 32 | 16 | S-Auto | Auto | Throttle | ..... |
| | 15-DC-180 | 1500 | 100 | 32 | 1 | 4 | Own | 3¼ | K | Air | Yes | Direct | Own | Own | †180 | 32 | 16 | S-Auto | Auto | Throttle | 645 |
| Willys Light | | 1250 | 95 | 32 | 1 | 4 | Knight | 3 | Opt. | Air | No | Direct | A-L | Exide or U. S. L. | 225 | 32 | 16 | S-Auto | Auto | ..... | 695 |
| Winton | | 5000 | 250 | 115 | 4 | 4 | Own | ... | G | Water | ... | Direct | Imperial | Opt. | ..... | Opt. | Opt. | ..... | ..... | ..... | ..... |
| Wisconsin, | 302 | 600 | 12 | 32 | 1 | ... | Own | 2½ | G & K | Water | Yes | Belt | Own | ..... | ..... | 32 | 16 | Manual | Manual | Throttle | ..... |
| | 303 | 800 | 24 | 32 | 1 | ... | Own | 3 | G & K | Water | Yes | Belt | Own | ..... | ..... | 32 | 16 | Manual | Manual | Throttle | ..... |
| | 304 | 2000 | 40 | 32 | 1 | ... | Own | 4 | G & K | Water | Yes | Belt | Own | ..... | ..... | 32 | 16 | Manual | Manual | Throttle | ..... |

*Without engine. Opt., Optional. S-Auto., Semi-Automatic. K, Kerosene. Electro-Mag., Electro-Magnetic. A-L., Auto-Lite. West., Westinghouse. R. & M., Robbins & Myers. †8 hr. rating. G-S, Gould Special.

## Better Battery Locations Needed

(*Concluded from page 15*)

example, when the battery is placed under the seat or the floorboards, there are but two positions available for its location. One is underneath the driver's seat and the other on the other side, of course. Generally if located under the driver's seat some compromise must be effected to obviate the conflict of the brake rods running over the battery. If placed in the only other available position it is found generally that the exhaust pipe runs under the battery as shown by the sketch. On cars where the exhaust pipe is on the same side as the steering gear this objection does not hold. On cars of this latter type, it would be very possible to work out a trap door in the floorboard which would permit of easy access to the cells.

After all this harangue on battery location deploring the present generally mis-located position of this unit it would be ill-fitting indeed if we did not offer some constructive thought before closing. After considering the situation from the criticisms voiced by our readers, we have come to the conclusion that a battery located as shown in the sketch would be much more favorably considered than it is now. The battery box in this installation would consist of a neat little compartment in the body side covered over with a door similar to those used for cowl ventilation. This door could be secured at its base with concealed hinges and snapped close at the top with a neat and durable snap fastener. Upon letting the door down, two chains or folding arms could support it in a horizontal position. The battery would then be exposed on its end where a stout handle could be fitted. A sliding track fitted so that the battery could be slid out from its compartment similar to the method used on a Kodak, would permit the cell being pulled out on the hinged door where it would be in full view. The battery terminals could be fitted with knife blades engaging with similar blades in the compartment and the blades could be so fitted that when the battery was forced into place it could have but one position of entry. This would eliminate the possibility of reversed connections. The copper lead wires to the starting motor could be of heavy strap copper rigidly fixed in position. The construction of the bus bar connections to the battery might resemble the knife blade connections of a switch. A stout snap lock would hold the battery when shoved home to it position in the campartment, and when the door was closed no one would suspect that a battery was concealed inside. The big advantage of such a location would be that the battery would be free from dust and dirt, would be out of the way of the exhaust heat and would be instantly accessible. Further the passengers would not have to get out of the car when the battery was to be examined.

# EDITORIAL

# The Shows Will Stimulate Business

THE New York show resulted in bringing a stimulus to business. The Chicago show which will be held next week, a few weeks later than the Eastern exhibit, will increase this stimulus further. Dealers who attended the first of the national exhibits could not help but be impressed with the importance of such a display to the industry as a whole. It brought it back to where it belongs. And those that visit the Chicago show will have this phase brought home to them even more emphatically.

The buyers are back in the market but they are not rushing around wildly. They have passed through many months of uncertainty and for months to come they will step carefully. They have learned a good deal from the period of extravangance through which they have passed and they are not going to invest their money without first knowing that they will receive full value for it.

This year will not reach the heights attained in the nrst six months of 1920, nor will any year for many years to come, but it will advance far beyond the last six months. Undue optimism is as dangerous to the life of the industry as is misplaced pessimism but there is everything in the present outlook to warrant a fair degree of good feeling in the future and everyone is better pleased when the results far outrun anticipations. Let us anticipate but, at the same time, buckle down to hard work.

## *SNOW REMOVAL NEXT WINTER*

WHILE the great problem of keeping open the highways of the country in winter has not been completely solved, it is gratifying to note the activities going on in dealer organizations and highway associations and among fleet owners, merchants, warehousemen, farmers, etc., toward an ultimate solution of the problem.

Snow removal is not only a problem that confronts highway transportation, but one that must be considered in the maintenance of the road structure itself. It is detrimental, so the authorities state, to allow snow to remain on the surface of an improved highway. The degree of damage resulting from this depends, of course, on the nature of the road structure.

But what the automotive dealer is interested in more than anything else is keeping the highways open for travel. It is but natural to expect a little slowing up in business when the roads are impassable, especially when the thermometer is down below zero at such times. However, there are plenty of people who would drive their cars if they could get through the heavy drifts of snow.

And the more cars and trucks we can keep operating on our roads in those sections of the country where the winter is severe, the better the business of the automobile and truck and dealer. Luckily this has been an open winter thus far in most sections of the country and the snow removal problem has been entirely absent from the larger communities. But the winters are not always going to be as open as the present and whatever is done now in the way of preparation will be used to advantage later on.

## *BETTER LOCATION OF OIL DRAINS*

ONE of the points of accessibility that seems to have been overlooked entirely by most of the automotive manufacturers is the location of oil drains. Why is it that the dealer has accepted without protest a car that is provided with an oil drain too small to function properly and located in the most inaccessible place imaginable? The recommendations offered by the manufacturer are that the oil be drained at intervals of from 500 to 1000 miles and that the crankcase be removed and thoroughly cleaned at least once a season. Do they expect that any man is going to get under the car and wriggle around while the oil drains from a one quarter inch hole?

The result is that lubrication is neglected, the vital parts begin to show wear and poor service is obtained, all of which reflects discredit upon the builder and dealer. A recent survey conducted by a large service station shows that only about 12 per cent of the customers had changed oil in two months. There are many places on the average crankcase where a large oil drain could be conveniently located and it is time for the dealer to impress this fact upon the minds of the designing engineers.

## California Tax Proposal on Gas Arouses Dealer Bodies

### Another Suggestion to Raise Revenue for State Is to Place Levy on Tires

SACRAMENTO, CALIF., Jan. 20—Although the automobile interests of the state already pay more than $5,000,000 annually for the maintenance of the highways, the State Legislature is planning to impose an added burden, through a gasoline tax of a cent a gallon, that will bring about $10,000,000 more from the pockets of the motorists. The California Auto Trades Association is fighting the measure bitterly, as also is the Motor Car Dealers' Association; but the California State Automobile Association has indicated that if the proposed tax of a cent a gallon be cut in half, that organization would not oppose it.

Bitter criticism has arisen since the bill, fathered by Senator E. P. Sample, was first suggested. Of the $5,000,000 now paid in licenses for use on the roads, more than half, it is claimed, goes to the Motor Vehicle Department for overhead. Farmers are complaining, too, that the distillate used for tractors would be taxed, while there would be no use of the highways by the tractors. To meet this objection, Senator Walter Eden proposes a graduated tax on tires, their owners to pay according to size, and according to whether a tire is pneumatic or solid. His suggestion, however, has received little notice.

The probability of a cent a gallon tax follows hard upon an announcement made unofficially that the reserve supply laid up here during the winter will not last out the summer, and that there will be another shortage before July. One oil company official estimated the shortage at 1,500,000 gallons of gasoline, and said the price probably would have to be increased to meet the cost of importing this amount from the middle west. Incidentally, it might be mentioned that the price increase last summer was for meeting just such a case, and although the importations have stopped, price remains the same.

#### RANGER TRACTOR ADVANCES

Houston, Tex., Jan. 20—The selling price of the Ranger tractor-cultivator, manufactured by the Southern Motor Manufacturing Association, was advanced today from $1250 to $1375. This price includes cultivator gangs.

## General Motors Planning No Material Expansion This Year

New York, Jan. 17—The General Motors Corp. closed 1920 in a strong position with its inventories of unfinished materials substantially reduced, with its finances in good condition and comparatively few unsold vehicles on hand. It can be said with authority that the corporation does not contemplate any material expansion during the new year, notwithstanding many reports now in circulation of consolidations with other companies. It is felt the company's factories now are adequate to meet the demand for some time to come and that nothing will be gained by taking on additional lines.

Efforts will be centered upon making all the various divisions as profitable as Chevrolet, Buick and Cadillac have been. There is a possibility that the company may abandon some of its activities not related to the automotive industry. It is understood the directors are not enthusiastic about retaining the big new Durant building in Detroit and they probably would not hesitate to sell it if an opportunity offered.

## Mobile Assured Show for Next Ten Years

*MOBILE, ALA., Jan. 23—Mobile is to have an annual automobile show for the next ten years at least. Guy J. Hartwell, supported by virtually all the automobile dealers of this city, has signed a ten-year lease with the Gulf Coast Fair association, for the automobile display building at the fair grounds on Mobile Bay. The show will be held simultaneously each year with the Gulf Coast fair.*

## Ford Distributing $8,000,000 Among 52,000 Employees

Detroit, Mich., Jan. 17—During the first three days of this week 22,600 workers of the Ford Motor Co. are on the list to call and receive their bonus checks. Today 3,300 employees of the Highland Park plant and 5,500 employed usually at the River Rouge works are to call; on Tuesday 2,600 are to receive their bonus in Detroit; 5,100 in River Rouge; while for Wednesday there are 3,700 scheduled to come to the Highland Park plant and 2,400 by groups and according to their badge numbers. All told 52,000 of the workers of the entire Ford organization, which embraces besides the Detroit River Rouge plants all the assembling plants in the country and in some of the foreign countries, are to get bonus money. The total to be distributed will be approximately $8,000,000, it is said, and the amount per man will range from $50 to $450.

#### WINTHER AT SHERMAN HOUSE

Kenosha, Wis., Jan. 20.—The Winther Motor Sales Corp. will exhibit its motor truck and passenger car products in the Sherman House, Chicago, during the national automobile show there, Jan. 29 to Feb. 5. The list price of thee Winther "Six" was recently reduced to $2650 including all standard equipment.

## Forum in Connection With Georgia Dealer Convention

### Walter P. Chrysler Among Prominent Men Who Will Speak at Atlanta Meeting

ATLANTA, Jan. 20—Leaders in the automotive industry in the South, some of whom are nationally prominent in the industry, are scheduled to address the annual meeting of the Georgia Automotive Dealers' Association which is to be held in Atlanta at the Capital City club, Jan. 26. The whole purpose of the meeting will be to discuss ways and means of working together to GET BACK TO BUSINESS, according to William L. Mathers, president. The program, as announced by Mr. Mathers, follows:

Registration of visiting dealers.

The meeting will be called to order at 11 o'clock by President Mathers.

Address of welcome by George W. Hanson of the Hanson Motor Co.

Response by W. T. Waters, of the Waters Motor Co., Macon.

Annual address of the President by W. L. Mathers Standard Eight distributor.

Report of the secretary, by P. A. McGahee.

Address by Walter P. Chrysler, executive vice president of the Willys-Overland Co.

Address by A. R. Kroh, of the sales promotion department of the Goodyear Tire & Rubber Co., on "Motorization of the Farm."

Election of committees to nominate officers for 1921.

Luncheon.

Address by R. H. Martin, of the Southern Oakland Co., Atlanta, on "The Status of the Industry—Present and Future—From the Dealers' Standpoint."

Address by L. D. Hicks, of the Southern Ruralist, Atlanta.

Address by W. R. C. Smith, of the W. R. C. Smith Publishing Co., Atlanta.

Forum—"Tell Your Troubles and Learn From Others."

Passenger car division; R. C. Dunlap, Buick dealer, Macon, leader.

Trucks; James A. Brigman, Federal distributor, Atlanta, leader.

Accessories; Ed. Yancey, Elyea Co., wholesalers, Atlanta, leader.

Tires; Wiley West, manager Atlanta branch Firestone Tire & Rubber Co., leader.

Report of the nominating committee.

Election of officers for 1921.

Adjournment.

A meeting of the board of directors of the association has been called for Jan. 25.

#### NAME CONTINENTAL DISTRIBUTOR

New Orleans, Jan. 20.—Frank Weinberger Auto Parts Co. of this city has been appointed distributor of the Continental Motors Co., and for the parts of this engine, for Louisiana, southern Mississippi and a part of east Texas.

## *Beauty and Business Hand in Hand*

**The Philadelphia show will take its place among the most beautiful held. The architect adopted classic Greek and Italian Renaissance ideas for the decorations, there being sculptured plaques, replicas of ancient horsemen and runners, a notably handsome center court, representing a fountain court, in marble with statuary; hanging Florentine lamps, rich draperies and tall urns and flowers**

# Second Day of Philadelphia Shows Sees Start of Selling

### Evident on First Night That Dealer Demand Will Be Bigger Than Ever Before

PHILADELPHIA, Jan. 17—Under the auspices of the Philadelphia Automobile Trade Association, local dealers opened on Saturday night the biggest, costliest and most luxuriously staged show of the kind ever presented here. It is the twentieth in the series, which was begun in 1901. Passenger cars representing eighty makes of a total value of approximately $2,000,000 are being displayed in the Commercial Museum by fifty-seven exhibitors. Among the cars seen at a Philadelphia show for the first time are the Lincoln, Noma, Lafayette, Gardner, Owen-Magnetic, Handley-Knight, Renault, H. C. S., Dort, Cunningham and Sheridan. There are forty-three exhibitors of automotive equipment, including tires.

A new arrangement this year is the stationing of aisle guides in uniform about the building to direct visitors. Instead of a program, the management has issued a guide map on a small pocket folder, without advertising and merely listing the exhibitors. More dealers from the smaller cities and towns attended the opening of this show than any previous exhibit here, because of the greater representation of manufacturers. It was evident, even on the first night, that there will be a bigger dealer demand than heretofore. The afternoon of the second day—today—witnessed a few sales as a starter. More than 300 cars are on the floor, including several stripped chasses.

There will be no motor truck show for the present, but several of the truck concerns are holding private shows. The truck dealers are fully alive to the big trade that is promised, as this is believed to be a "truck year," but even as far back as last year's show, many thought that truck shows as a general proposition do not pay.

#### RE-ORGANIZATION FOR VIM

Philadelphia, Jan. 19.—The Vim Motor Truck Co. has been reorganized and taken over by responsible financial interests. No announcement has been made as to the details of the transaction but it is understood the company has been purchased by the Standard Steel Car Co. which has plants at Butler and New Castle, Pa. and Hammond, Ind. The Vim company resulted from a reorganization in 1915 of the Touraine Co., which produced the Vim delivery cars. The company has devoted itself to the manufacture of commercial vehicles.

# McGraw Tire Is Taken Over by Bankers to Help Stockholders

Cleveland, Jan. 23—The Maynard H. Murch Co. investment bankers of this city have taken control of the McGraw Tire & Rubber Co. in order to protect the holders of preferred stock of the company. This action was taken pursuant to a right reserved when the Murch company bought a $2,500,000 preferred stock issue of the company in August, 1919.

At the offices of Mr. Murch it was stated that the rubber company suffered severe losses from two sources as follows: First, in operation through the reduction in tire prices that followed a slump in buying; second, through the shrinkage in value in the readjustment period of quantities of fabric and crude rubber which were bought in too large quantities on a peak market.

# Merchandise Creditors Block Goodyear Refinancing Plans

### New Banking Houses Brought Into Negotiations in Efforts to Avoid Receivership

NEW YORK, Jan. 19—Conferences of representatives of the various banking groups which are interested in the reorganization of the Goodyear Tire & Rubber Co. are being held here almost daily. Highly optimistic reports which have been current in financial circles the past few days are somewhat premature. The chief stumbling block in the success of the negotiations is the attitude of the merchandise creditors.

A large banking house has agreed to underwrite an issue of first mortgage bonds which it has been proposed to issue for the further protection of secured creditors. In connection with this proposal is another to issue junior securities in the form of 20-year debentures and first preferred stock to the unsecured creditors. This plan is not satisfactory to a large proportion of those to whom bills for merchandise are payable. It is intimated however that unless this offer is accepted, the only alternative is a receivership under which the merchandise creditors would have to take what they could get.

Several new banking houses have been brought into negotiations, including J. P. Morgan & Co., and bankers who are interested in other tire companies are lending their aid because of the sincere desire to keep Goodyear out of the courts. It is realized that a receivership would have a bad psychological effect upon the entire industry. A definite decision must be reached before February 15, when Goodyear must pay $10,000,000 to the banking syndicate headed by Goldman Sachs & Co.

# Better Service Is Purpose of New Ft. Worth Organization

Ft. Worth, Texas, Jan. 20—Garage and supply station owners of Texas will organize for "better service." The new movement started in Ft. Worth among the repair men, who now have applied for a state charter and are interesting all cities and towns in the plan.

Heading the local organization are the following: S. M. Harison, president; George F. Bischef, executive chairman; A. D. Speight, vice president; J. D. Bragassa, secretary; R. Lupton, treasurer. No effort to regulate the business methods or the business affairs of any company is contemplated, it is stated by the organizers. The sole purpose is to encourage better relations between the public and the service men. It is also proposed to work for better automobile legislation in Texas, including the control of thefts and the punishment of thieves. For the present, at least, the headquarters of the organization will reman in Ft. Worth.

## Flint Is Chosen by Durant as Location for First Unit

### Former General Motors President Rounding Up Organization—Expects to Start Aug. 1

NEW YORK, Jan. 18—The first unit of Durant Motors, Inc., incorporated late last week by William C. Durant, former president of the General Motors Corp., will be located in Flint, Mich., the city where he gained his first fame and which he is credited with having "put on the map." News that Mr. Durant was going back into the automobile manufacturing field with a car of his own has created intense interest throughout the industry but it caused a sensation in Flint and ever since it was made his temporary offices in the Goodrich Rubber Co. building have been deluged with telegrams of congratulation and best wishes.

Mr. Durant has not told his plans in detail and probably won't for a month yet but he already is rounding up an organization. The first man to join him was F. W. Hohensee who resigned as a vice president, director and member of the finance committee of General Motors the same day last week that Durant retired as a member of the finance committee and chairman of the executive committee. Hohensee has been known as one of the most capable men in General Motors where he has been general manager of production for the Chevrolet company.

The second man to go with Mr. Durant was A. T. Sturt, chief engineer of the Chevrolet company. He has had much to do with the development of that car. The fact that these two Chevrolet executives have gone with Durant adds significance to his announcement that Durant Motors would produce a 4-cylinder car which would sell for less than $1,000. It is understood, however that the new car will include several features Durant long has had in the back of his head and that it will be designed under his general direction. It is probable it will be in a little higher price class than the Chevrolet but will lend itself to quantity production. When it will be placed on the market has not been determined but it is expected the company will be in operation by Aug. 1. In addition to the Flint plant another factory will be located in the East and it is possible the company will have a separate unit for the manufacture of engines and other parts.

## Dealers Want Fashion Display During Show Week

*ATLANTA, GA., Jan. 15—The Atlanta Automobile Dealers' Association has appealed to all retail merchants of Atlanta to co-operate in making the Great Southern Automobile Show, to be held at the Atlanta Auditorium March 5 to 12, a big success by staging a fashion show in the retail stores of the city during that week with living models. This plan, it is believed, will further stimulate interest in the automobile show and bring to Atlanta during the week many thousand people from the surrounding territory.*

### NO TRI-CITY SHOW

Rock Island, Ill., Jan. 15—Lack of a hall large enough to accommodate displays will prevent a tri-city automobile show this Spring, dealers say and it does not seem likely that there will be any formal central display, even in each city. Davenport, Iowa, dealers cannot secure a hall large enough for their own display.

## Supreme Court Holds Owner of Car Responsible for Its Use

### Decision Rendered in Liquor Case—Important to Dealers Selling on Part Time

WASHINGTON, Jan. 17—Seizures of automobiles or any conveyances in which liquors are being carried contrary to law, were held authorized by the Supreme Court here today whether or not the owner of the conveyance has been found innocent of contravening the law.

The decision was rendered in an appeal from a Georgia court decision. An automobile loaned by J. W. Goldsmith to a friend was seized by Federal officers when found carrying intoxicants. The court held that when he entrusted his property to another he assumed the risk of loss from whatever cause it might occur.

#### Quotes Ancient Law

Justice McKenna, who read the opinion of the court, went back to the Mosaic statutes for initial justification of the Government's contention, quoting from the ancient tablets that "if an ox gore a man that he die, the ox shall be stoned and his flesh not eaten."

Counsel for Goldsmith had contended that affirmation of the decision of the lower court might mean that a Pullman sleeper might be seized if a passenger carried a quart of liquor on board, or an ocean liner forfeited to the government, if, unknown to those in charge, a case of liquor was transported in the hold.

"Whether those indicated possibilities under the law are justified, we are not called upon to consider," Justice McKenna said. "And we also reserve opinion as to whether the section can be extended to property stolen or otherwise taken from an owner without his consent."

## *Toledo Stages Its Thirteenth Show*

Dealers and distributors in Toledo are out to win. This view of the thirteenth annual show staged under the direction of Charles E. Doan, president of the Toledo Auto Shows Co. and Studebaker distributor; and H. V. Buelow, show manager, proves it. There are 100,000 sq. ft. of floor space and over 140 exhibitors occupying it

# Concerning Men You Know

Frank J. McDonald is head of the Packard-Spokane Co., Inc., Spokane, organized to handle the Packard in eastern Washington, northern Idaho and western Montana. The Packard line was formerly handled by the John Doran Co.

Jerome T. Stack, identified with the automobile industry for a decade, has become salesmanager associated with Felix V. Goldsborough, Baltimore distributor of the Standard "S."

Harry A. Mayer, for a long period identified with automobile row in Baltimore, has resigned as vice president and general manager of the United Auto Sales Co., Studebaker distributors.

Gaylord A. Hoyt, formerly with the Bell Telephone System, and W. N. Grounsell, previously a salesman for the Midvale Steel & Ordnance Co., have joined the sales force of the Franklin Automobile Co. of Syracuse, N. Y.

E. Hives, who has been for more than ten years chief of the experimental department of the Rolls-Royce British plant, is in America checking up on certain points in connection with the products of the American factory at Springfield, Mass.

Col. George W. Mixter, president of the Pierce-Arrow Motor Car Co., has been elected a director of the Buffalo Chamber of Commerce.

A. L. Jensen, formerly with the Seattle agency for handling Disteel wheels, has taken charge of the agency at Spokane. For the present he is handling through the R. M. Wade Co. in that city.

H. D. Braun is president of Braun-Stecker-Stevens, Inc., Los Angeles, Calif., distributors in Washington, Oregon and California, of the Wolverine truck. Mr. Braun recently visited the factory at Detroit and upon his return to the coast announced that distribution would take place on a larger scale than heretofore. W. G. Stecker is vice president of the company and J. H. Stevens, secretary and treasurer.

E. B. McKay has been elected vice president and general manager of the Inland Rubber Co., Chicago. Previous to his association with the company a year ago he was first vice president of the Empire Tire & Rubber Corp. of Trenton, N. J.

Earl E. Harrington has assumed his duties as general superintendent of the Delion Tire & Rubber Co., Baltimore.

Major Victor W. Page has resigned as Managing Editor of Everyday Engineering Magazine and Technical Editor of the Norman W. Henley Publishing Co. and has moved his consulting engineering offices from 2 W. 45th street to 309 Lafayette street, New York City. He is now president and chief engineer of the Victor Page Motors Corp. which has been formed to manufacture and market a new light weight car, equipped with a four cylinder air-cooled engine of his design.

Fred H. Ayers, sales manager for the past four years of the Fisk Rubber Co., with headquarters at the Chicopee Falls offices, has been promoted to director of sales, in charge of the sales, advertising and publicity departments. His successor, as sales manager, will be William Weild, who has been with the Fisk company for about four years and has been assisstant sales manager for some time past. As assistant sales managers, Leon N. Southmayd and Charles H. Gage, both attached for several years to the sales department, have been promoted. Karl S. Chamberlin, formerly assisstant manager of export sales, has been advanced to managership of this department.

A. Z. Polhamus, who was formerly the general manager of S. F. Bowser & Co., Inc., Fort Wayne, Ind., has been named president of the newly organized Visible Pump Co. of that city. The following additional officers have been elected: Vice-president, H. D. Dean; treasurer, S. B. Rohrer; secretary, W. M. Roth.

## Colleges Sending Professors to Speak at Tractor Exhibit

Columbus, Jan. 21—A comprehensive educational program has been arranged for the National Tractor Show which will be held here Feb. 7 to 12 inclusive.

"Factors Which Determine the Type and Size of Tractor to be Purchased" will be explained by I. W. Dickerson, Charles City, Ia. "The Modern Trend of Tractor Design" is the subject to be treated by J. B. Davidson of the Iowa state college. Prof. O. W. Sjogren of the College of Agriculture of Lincoln, Neb., will talk on "Ignition Troubles and Their Remedies" and "Tractor Hitches" will be discussed by Prof. Daniel Scoates of A. & M. College, College Station, Tex.

Two Ohio state university professors will be on the program. They will be G. W. McCuen and F. W. Ives. The former will lecture on "Lessons to Be Learned from a Tractor Survey in Ohio" and the latter on "Housing the Tractor and Tractor Tools." Pennsylvania state college is sending Prof. R. U. Blasingame to talk on "Advisabiltiy of Purchasing Tractors and Tractor Tools in Community Groups."

Practical farmers will also be on the program and it is planned to have a general round table discussion on all questions pertaining to farming and tractors.

### ENCOURAGES SAVINGS ACCOUNTS

Birmingham, Ala., Jan. 1—W. S. Edwards, Jr., owner of Edwards Motor Co., one of the most active firms on automobile row and one of the largest Chevrolet distributors in the South, entertained his employees at dinner this week. In a brief address he impressed the advantages of saving and as a result many of those present promised to start a 10 per cent savings account from their monthly salaries. Martin Klyce, salesmanager of the Bessemer and Ensley branches, made an address as did others who were in attendance.

## John Orman Is Reappointed Indianapolis Trade Manager

Indianapolis, Jan. 22—At the annual meeting of the Indianapolis Automobile Trade Association the following officers were elected for the ensuing years: N. H. Cartinhour, president; H. C. Lathrop, vice-president; Andrew Hutchinson, secretary; George Wildhack, treasurer. Messrs. Cartinhour and Hutchinson and L. L. Banford were elected directors and John Orman was reappointed manager for the association, a position he has filled for many years.

Fifty-one automobile firms were represented at the meeting. It was definitely decided that the annual Spring show of the association will be held at the state fair grounds the week of March 7.

### MARTIN-PARRY DEALERS MEET

Indianapolis, Jan. 20—More than two hundred dealers, distributors and members of the branch sales organization of the Martin-Parry Corp., attended an announcement convention held at the factory, which was featured by a number of unusual sales features. During the convention address were made by John J. Watson, chairman of the board of directors; Gov. Warren T. McCray of Indiana; Ho Ling Wong of the Chinese Foreign Relations Commission; R. King Kauffman, vice president of the Mercantile Trust Co., of St. Louis, and Carl Baer, president of the Commercial Development Service of the United States and manager of the Development Service Bureau of St. Louis.

## Condition of Money Market Hinders Holding Car Show

Cedar Rapids, Ia., Jan. 21—The condition of Iowa's money market, agreed by bankers to have been more critical during the last sixty days than in several years, has been responsible for the delaying of the annual motor show of the Cedar Rapids Motor Trades bureau until the latest possible date. At a recent meeting of the local association, it was agreed to make no effort to have the exhibition until after March 1, and to wait until the middle of the month if satisfactory arrangements for dates can be made.

It is likely that the show will be held during the week of March 14, following the Des Moines show.

A loosening up of the state's credit situation is anticipated about March 1, by bankers and automobile men. Farm money is expected in about that time, and this will be likely to prove a stimulus to purchasing among rural prospective buyers.

## Bureau of Mines Completes Petroleum Specifications

Washington, D. C., Jan. 22—Specifications for petroleum products have been completed by the Bureau of Mines. The report shows more definite standards of testing for automobile fuels and oils. Most of the suggestions of the Society of Automotive Engineers were incorporated in the specifications.

The old gravity specifications for fuel oil have been completely eliminated. The viscosity requirement has been set for each grade of fuel oil and the Saybolt "Furol" viscosimeter adopted for testing all fuel oils was purchased by the Federal Government.

Lubricating oils specifications are practically unchanged but several new grades have been added.

### DETROIT CONSIDERS SHOW DATE.

Detroit, Jan. 21—The Detroit Automobile Dealers Association will stage a show in March but has not decided the exact dates or the location. Several buildings are in view and the possibility is that the new Durant building may be secured. Kalamazoo will stage its ninth annual automobile show Jan. 18 to 22 and thirty types have already been alloted space. The Merchants' Association is co-operating and the five days will be made a holiday season.

## Adequacy of Down Payments Theme of Letter to Dealers

### Finance Company Cautions Care Against Sales With Insufficient Capital to Back Them

NEW YORK, Jan. 24—A series of letters advising dealers on the finer points of making automobile and truck sales on credit has been sent to several thousand dealers by the Auto Financing Credit Men's Association, Inc., which is operating with a permanent secretary from headquarters in New York. To date three letters have been sent out and others will follow, all being intended to help dealers improve the general standing of their credit risks, to their own benefit and that of the acceptance companies financing time sales.

The first letter tells the dealers—clients of the companies making up the association—about the formation of the organization and its objects. It then goes on to discuss the adequacy of "down payments," declaring that in all cases these should be large enough so that the repossessed value of the car or truck would not be less than the balance due on it. The letter particularly cautions against sales in which the earnings of the vehicle are to be relied upon to meet installment payments, pointing out that illness, accident or loss may at any time cause delinquency or default, with the dealer as the loser.

The second letter urges careful investigation by the dealer to determine the financial responsibility of prospective time purchasers and the third elaborates on the same idea.

The association has 25 members in the New York territory and 17, some of them branches of New York and vicinity houses, in Chicago and vicinity. It has a protective feature for its members in the exchange of information regarding accounts, intended among other things to prevent loans by two companies with one vehicle as security, a situation which developed occasionally when a dealer has patronized one company to finance the wholesale purchase and another to carry the retail sale of the same car or cars. Obviously, the second lien was worthless and the acceptance corporation without means of enforcing its claim in case of default. During December, for instance, 94 such duplications, involving $18,881 were reported. The larger work of the association, it is stated, is to assist the dealer in improving his credit risks.

### REVERE FOUND SOLVENT

Indianapolis, Jan. 21.—A finding of solvency in the bankruptcy proceedings instituted against the ReVere Motor Car Corp. of Logansport three weeks ago, has been made in Federal court by Harry C. Sheridan of Frankfort, special master. The decision has been expected ever since the hearing last week, when Mr. Sheridan indicated he was convinced of the solvency of the concern. The finding points out that expert accountants had testified that the assets of the company on Nov. 30, 1920, were $1,157,328.59 and liabilities only $354,659.90, and that no attempt to question or contradict the figures had been made. The proceedings were brought by three Chicago concerns.

## New York Show Sweeps Away Pessimism, Dealers Are Told

Fort Wayne, Ind., Jan. 20—An optimistic feeling was manifested at the annual banquet of the Fort Wayne Auto Trade Association which was attended by over 250 members of the organization. C. O. Gooding acted as toastmaster. A number of musical selections and community singing were features of the gathering. J. A. Willson, manager of the Fort Wayne Better Business Bureau, delivered a short address telling about the work of his organization.

Following this A. R. Kroh, the principal speaker of the evening, declared that no matter how much of a pessimist about the future of the automobile business anyone might have been before the New York show no one could attend that show and not come away enthusiastically optimistic over the outlook for the future. The association is planning on an extensive advertising campaign.

## Receiver Takes Charge of Interlocking Cord Tire Co.

Akron, Jan. 18.—Elihu Harpham, prominent Akron real estate operator, today took over charge of the affairs of the Interlocking Cord Tire Co. of Akron and Mogadore following his appointment as receiver by Judge W. I. Ahern in Common Pleas court, on petition of several stockholders and minor officers of the company, who charge mismanagement.

Mr. Harpham has been intrusted to conduct an immediate audit of the company's books to determine the exact amount of assets and liabilities. The plant at Mogadore has been closed for several days due to shutting off of power by the Northern Ohio Traction and Light Co., through failure of the company to contract for power, the shareholders charge in their petition.

## Garage Owners Planning to ... Fight Blue Law Legislation

Philadelphia, Jan. 19—The Philadelphia Garage Association is planning to conduct a campaign before the state legislature this Winter against the so-called "blue" laws, as especially inimical to the interests of the owners of public garages. At the monthly meeting John R. Fox, secretary of the association, outlined conditions to the membership. Other speakers were "Al" Ladner and "Parson" Davis of the Smile and Don't Worry Club. There were six vaudeville turns on the program. More than 100 members attended.

The March meeting will take the form of a supper and dance at Mosebach's hall.

## Chicago Ford Dealers Unite Their Used Car Departments

### Saving of Space and Overhead Accomplished Through Eliminating Individual Salesrooms

CHICAGO, Jan. 21.—The eighteen Chicago Ford dealers have organized a $200,000 company for the purpose of concentrating the sale of used cars. The main store on South Michigan avenue and the three sales stores on the south, north and west sides of the city will carry a large number of cars on hand and an ample sales force to take care of a volume of business.

Through this arrangement each Ford dealer will not find it necessary to maintain an individual used car department, and the dealers will be able to give their undivided attention to the handling of new cars, parts and service.

W. H. Lloyd of Lloyd-Shanesy Co. is the president of the company; Charles J. Dempsey of Charles J. Dempsy, Inc., vice president; and Benjamin Wright of Wright-Kenderdine Co., secretary-treasurer. In addition to the above the directors include E. J. Sheehan of the S. & L. Motor Co. and Arthur Lawder of Lawder Bros.

"Few people realize," Mr. Lloyd says, "the volume of this business but it has now come to the point where several thousand cars are sold each year. To take care of this business requires an immense amount of valuable space and the cost is considerably higher than where one company organized for the sole purpose of disposing of these cars can handle all the business to the advantage of the buyer as well as to ourselves. The new organization expects to have a large outlet for used cars through several connections even outside the city of Chicago."

## Number of Different Models to Be Less Than Former Years

New York, Jan. 21—That the body types which will prevail during the present year will be confined to the 5-passenger touring car, 2-passenger runabout, 5-passenger sedan and 4-passenger coupe, with 7-passenger touring cars and 7-passenger sedans in limited numbers, was the statement made by George J. Mercer, consulting body engineer of the Saxon Motor Co., before the first body engineering session of the Society of Automotive Engineers, held in the Engineering Building here. Mr. Mercer said:

"The number of different models that will prevail during the coming season is less than in past years. For example, a few seasons ago one manufacturer listed fourteen body styles that were in regular production; the greatest number of models listed by one manufacturer during the past year was eight; the majority listed four."

# The Readers' Clearing House
## Questions and Answers

# ENGINE SPEED of L and I HEAD

CONDUCTED BY ROY E. BERG
*Technical Editor, Motor Age*

Q—Is it the design of the combustion chamber of a valve in head motor that makes it a higher speed motor than that of an L-head motor or is it the arrangement of the valves?—J. H. Horn, Waterloo, Ill.

A glance through a specification sheet giving the engineering data for engine design, reveals that the average stock I-head engines are not faster than the average stock L-head engines. We have speeds with L-head engines these days which are up to 3600 r. p. m., and the writer has witnessed very much higher speed with L-head engines.

Due to the fact that an overhead valve engine has a combustion chamber that is compact and completely over the piston, the thermal efficiency of this type of engine may be slightly higher than with an L-head or T-head engine, though this may be disputed by some. This whole question is one that has been a bone of contention for a long time among engineers, but now it is fairly well settled that an L-head engine is more efficient on the exhaust stroke than is an overhead valve engine and that the overhead valve engine is more efficient than the L-head engine on the intake stroke.

That the above is true, may be reasonably settled by referring to Fig. 1, which shows the different valve arrangements. A, shows the overhead valve engine. It is apparent that the exhaust gases when passing out the exhaust passage must first be circumflected around the valve which is directly in the passage of the gases. This action causes the gases to be bent in two directions as they pass the valve. The first change of direction occurs when the gases are approaching the valve. Here they are caused to be deflected outward as they pass around the valve.

Then after the gases have passed the valve they must be bent inward. This causes excessive friction which is apparent when measuring the power necessary to drive an engine from an outside source. Now if we consider the exhaust passage of the L-head engine as at B, it is seen that the gases make one easy bend, and the only impediment in their way as they pass out valve throat is the edge of the valve, which offers far less resistance than does the whole head of the valve as in the I-head type.

The intake of the overhead valve as in A offers less resistance to the gas flow because here the gases have but one deflection to make, and this occurs as the gases pass by the edge of the valve. With the L-head arrangement the gases must be similarly deflected as they pass the valve but they must also make an addition bend as they sweep on into the combustion chamber, which is illustrated at C.

It is possible to combine the two valve layouts and at the same time to make an improvement over the L-head exhaust valve by inclining the valve, which is illustrated at D. The advantage of this layout is that the intake valve being in the head offers the least resistance to the inflow of the gases. The exhaust valve being in the inside and inclined at an angle offers less resistance than does an ordinary L-head valve because the gases have practically but to make a straight line in their egress from the combustion chamber.

*The Readers' Clearing House*

*THIS department is conducted to assist Dealers, Service Stations, Garagemen and their Mechanics in the solution of their repair and service problems.*

*In addressing this department readers are requested to give the firm name and address. Also state whether a permanent file of MOTOR AGE is kept, for many times inquiries of an identical nature have been asked by someone else and these are answered by reference to previous issues. MOTOR AGE reserves the right to answer the query by personal letter or through these columns.*

### CHALMERS OIL PUMP

Q—Explain how to regulate the oil pump on a Chalmers 26 B.—Wilbur Beard, Galesburg, Ill.

Fig. 3 shows the lubrication system of the model 26 Chalmers engine. The oil pump is located at the left side on the crankcase directly under the carbureter and is of the gear type. The pump is driven by spiral gears off the ignition timer shaft, which in turn is driven by the intake cam shaft. The oil pump consists of two simple gears, the spaces between the teeth of which act as cups, to force the oil from the reservoir through the pump to the header within the crankcase.

The pump should be thoroughly cleaned at least once a season. Failure of the gage to show pressure under ordinary running conditions indicates that the oil screen is clogged and should be cleaned. On the left side of the engine toward the front will be found a cap bearing the

*A Comparison of Gas Flow With Different Engine Heads*

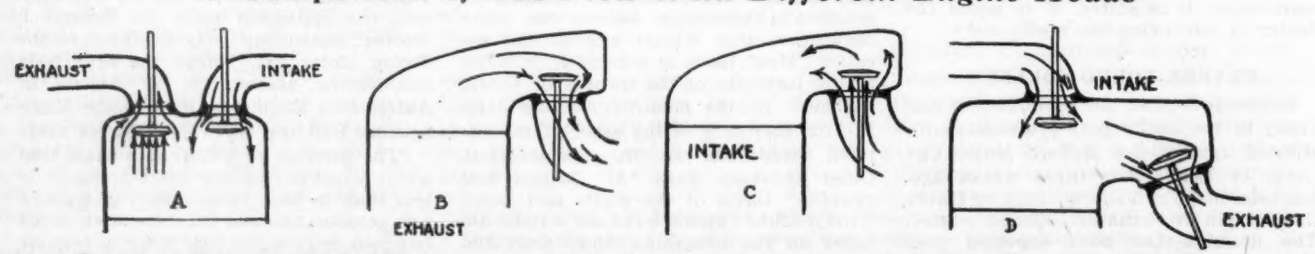



Fig. 1—A shows travel of gasses through overhead valves both for exhaust and intake. B shows the exhaust gas travel in an L-head engine and C the intake passages of the same engine. D is a theoretically ideal valve layout for the highest gas flow efficiency

words Clean Often. At least twice a month, and whenever the oil pressure gage fails to register any pressure while running, remove this cap and take out the cup screen which will be found beneath it. Lifting this screen brings out all of the sediment. If the oil pump has been removed and after replacing it fails to register there is a possibility that the gasket is too thick or the plate has not been drawn up tightly.

### SLIPS OUT OF GEAR

Q—The transmission gears on a Maxwell 25, 1917 do not mesh properly when shifted into high and gears slip out of mesh. Give cause and explain how the trouble can be remedied.—Robert Hanson, 109 Logan Ave., Joliet, Ill.

The fact that the gears do not seem to mesh properly seems to indicate that the shifter fork or the shifting rod is bent. This condition might have been caused by forcing the lever at some time or other when it was difficult to shift gears. If upon examination the fork is found to be in its proper position and the gears mesh correctly but will not remain in high gear the trouble is apt to be in the transmission. There is a

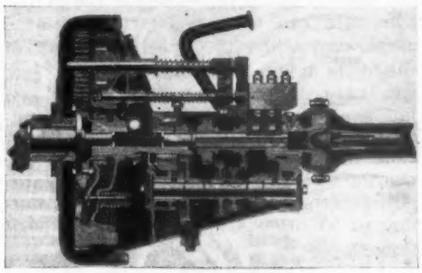


Fig. 2—Cross sectional view of the Maxwell clutch and transmission

notch in the transmission shaft which is cut V shaped to hold small pin.

When the gears are shifted into high speed or in other words to the direct drive of the transmission this pin slips into the groove and holds the gears in the proper position. It is possible that both pin and groove are so badly worn that they do not function. A diagram of the transmission and clutch is shown in Fig. 2. If the shifter fork or lever is bent you will have to bend back to the proper place. If the pin and groove are worn the trouble can be remedied by filing the pin and cutting the groove so that the pin will hold.

### PISTONS SLIP

Q—An Olds 1920 model 37A run about 3000 miles developes a light but continuous rattle, when run at high speeds ranging from 35 m.p.h. upwards, which increases in proportion to the speed. This rattle seems to come from the crankcase. Could this be caused by the connecting rod bearings being loose?

2—What is the rated speed of this model? Never could get more than 45 m.p.h. out of mine. Would a richer mixture give higher speed?

3—The engine consumes a great amount of oil. Spark plugs need frequent cleaning, and three of them are always wet and oily, even to the exterior portion of the porcelain. Do you think the fault lies with the piston rings?—D. S. Bergeron, Lathrop, Mich.

1—The rattle described above is, undoubtedly, being caused by the pistons slipping the side walls. We have had many similar inquiries and in each case, when the trouble was traced to its source, it developed that the pistons had worn until their loose fit made it possible for them to create this rattling sound.

2—While it is difficult to give, exactly, the rated speed of any car it is possible to state, in this case, that you should get at least 10 m.p.h. more. The causes for the low top speed will probably be found in the loose fitted pistons and improperly adjusted carbureter and a too close fitting of the ignition breaker points.

3—The fact that the engine consumes oil rapidly further indicates that the pistons are loose. A new set of piston rings would help the trouble somewhat but very slightly. What is needed most, in this car, is a set of tightly fitted pistons.

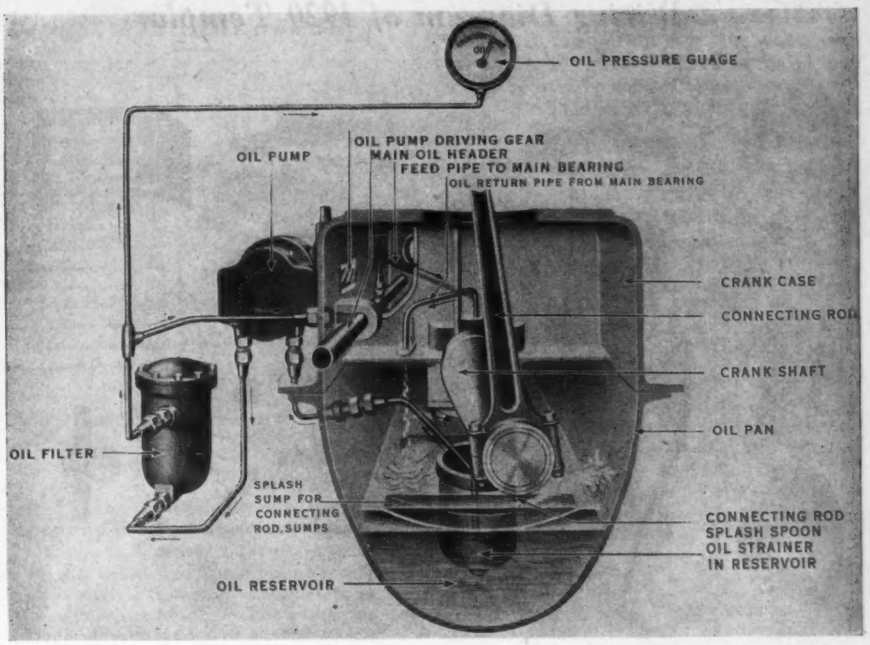



Fig. 3—Pictorial view of the engine lubrication system employed on the Chalmers model 26

### PAIGE WATER PUMP

Q—Explain how to remove the water pump from a Paige 38, 1916 car.—Adam Egly, Geneva, Ind.

Refer to Fig. 4, which is a sectional view of the pump. The first thing to do is to disconnect the coupling between the generator and the water pump. Next disconnect the generator and remove the bolts that hold it to its support. Take the generator off. Remove the packing of the pump glands. Split the pump housing and move each half away from each other. Pull the impeller which is held in place by a Woodruff key and remove the key. The pump housing can then be removed by sliding it off the generator end of the pump shaft.

### ESSEX OIL PUMPING

Q—On an Essex some trouble is experienced from oil pumping. The plugs foul after the oil gets slightly thin from use although Mobiloil of medium weight is used. Oil pump was adjusted but the trouble continued. How can this be remedied?—H. Temple Deamon, Marble Cliff, Ohio.

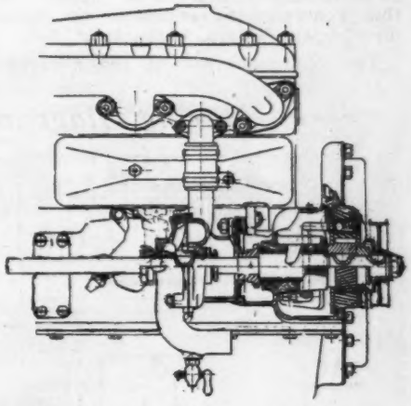


Fig. 4—Sectional view of the Paige water pump showing how it can be dis-assembled and removed from the engine

Undoubtedly, the trouble here is from a set of loosely fitted pistons. While the oil pump adjustment would have some effect on the plugs fouling, still this would be an increased means to an end.

Some benefit will be experienced by using a heavier oil but if the trouble still persists, after using this, we recommend fitting a new set of pistons.

## Wiring Diagram of 1920 Templar

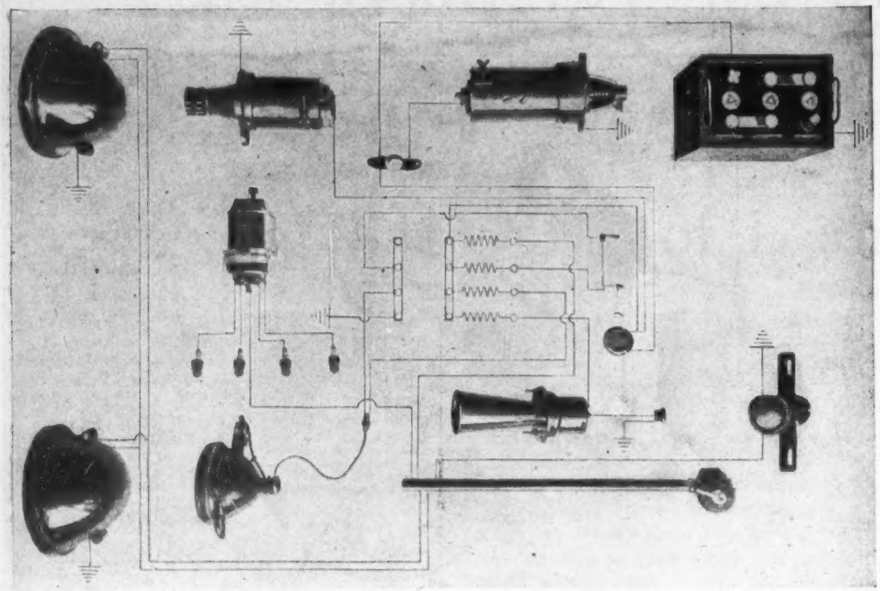


Fig. 5

### TEMPLAR WIRING DIAGRAM

Q—Publish wiring diagram of 1920 Templar.—J. A. Heisler, 309 N. Laurel St., Richmond, Va.

A pictorial view of the wiring is shown in Fig. 5.

### ADJUSTING CHARGING RATE

Q—Generator of the Delco system on a 1920 Buick shows only 10 amp. regardless of how fast engine is running. Under 12 or 15 m. p. h. there is no charge. Can this generator be regulated to charge more?—Sam Wilson, Lockesburg, Ark.

The charging rate of the generator can be increased by moving the third brush in the same direction as the armature rotates, or in the opposite direction, to decrease the rate. When the position of the third brush is changed, it is necessary to reseat the brush on the commutator to obtain the maximum true charging rate. To refit the third brush place a strip of fine sandpaper or sandcloth, having a slightly greater width than the brush, around at least half of the commutator, with the rough side next to the brush. Drawing the sandpaper back and forth a few times will properly reseat the brush. Never use emery cloth.

When the charging rate is to be increased an ammeter should be connected in the charging circuit and should be carefully observed while the engine is gradually speeded up and the maximum rate noted. With all lights off the charging rate should not exceed 16 amp. Refer to Fig. 9, a sectional view of the generator used on the 1920 Buick cars. Note the plate at the bottom of the generator which is held in place by two screws. Loosen these screws and move the plate toward or away from the engine as the case may require until the proper charging rate is obtained. Then tighten the screws and reseat the third brush.

## Wiring Diagram of 1916 Studebaker

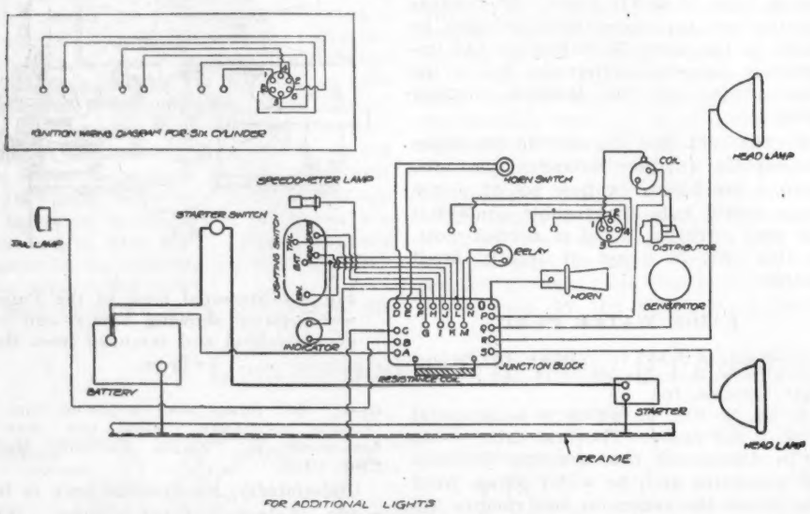



Fig. 6

### CHARGING THE BATTERY

Q—I have a direct current line of 250 volts pressure which I wish to use for charging storage batteries. Show how 60 watt lamps can be connected and the number to use to get the proper charging rate for a 6 volt 80 amp. hour battery.

If the lamps are designed for 115 volts you will have to connect two of them together to prevent burning the lamps out. Two lamps connected in series and connected to the line in parallel will take about ½ amp. If the battery is to be charged on the bench where it will be perfectly still the rate should not be over about 7 or 8 amp. at the most. Therefore it would be necessary to connect about fourteen groups of two lamps in series in parallel with the line and then connect the storage battery in series with the lamp bank. Fig. 7 shows the proper way to connect the lamps to obtain the desired charging rate.

It will be well to connect an ammeter in the line, in series with the battery which will indicate the charge rate. This will enable the cells to be given a tapering charge which is better for the plates. The rate can then be started off at 7 amps. and when the specific gravity of the cells is up to about 1.250 the rate can be reduced to about 4 amps. and later to about 2 or 3 amps. By extending the charge over a longer period of time the plates are injured less by the charge and any sulphation of the plates will be removed with less danger of sluffing or in other words sediment deposition.

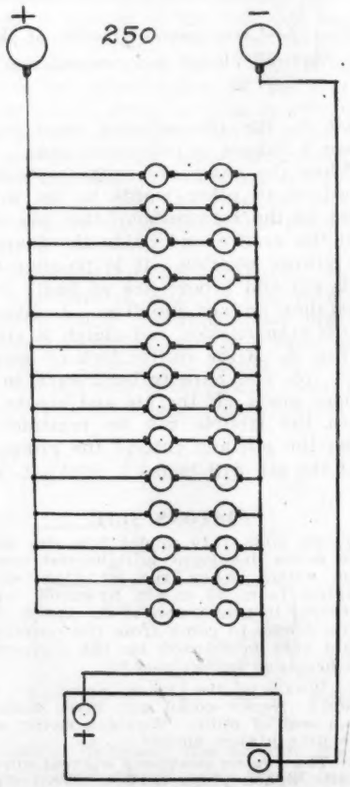



Fig. 7—Lampbank connection for charging storage batteries

## *Wiring of the Junction Block, 1916 Studebaker*

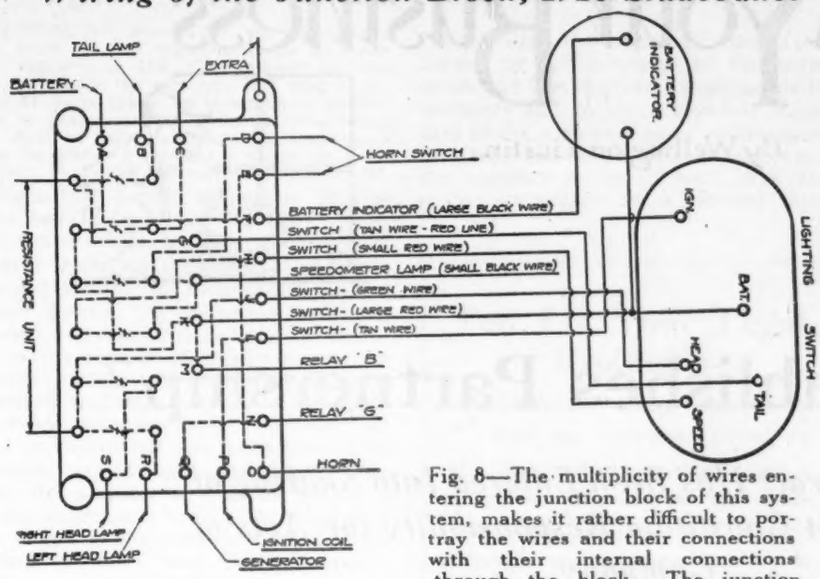



Fig. 8—The multiplicity of wires entering the junction block of this system, makes it rather difficult to portray the wires and their connections with their internal connections through the block. The junction therefore enlarged and shown above seen in reduced size in Fig. 6 is

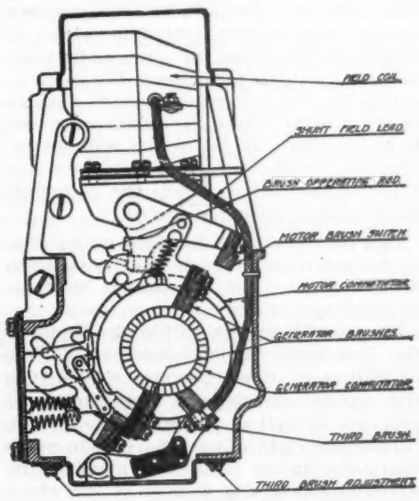



Fig. 9—Exposed view of the end of the Delco generator applied to the 1920 Buick cars showing the plate that controls the position of the third brush

### 1916 STUDEBAKER WIRING DIAGRAM

Q—Advise how to wire a 1916, four cylinder, three seated Studebaker roadster. How could same be remodeled into a newer looking car or a speedster?—A. Varada, F. & S. Motor Co., E. 92nd and St. Clair, Cleveland, O.

Wiring diagram of the 1916 4 cylinder Studebaker is shown in Fig. 6. The method of wiring used throughout is the grounder return or so called one-wire system. In this system there is an insulated wire circuit from the battery to each electrical unit. The detailed connections of the junction block are shown in Fig. 8.

### TEMPLAR REAR AXLE ADJUSTMENT

Q—Publish diagram of rear axle assembly of a 1920 Templar and explain the adjustments.—J. A. Heisler, 309 Laurel St., Richmond, Va.

A sectional view of the Templar rear axle assembly is shown in Fig. 11. The pinion shaft rolls on Bock taper roller thrust bearings, and to make the proper adjustment of the pinion shaft it is only necessary to tighten the large hex-nut on the pinion shaft enough so that the bearings do not bind, and the axle runs quiet. Bring up the second hex-nut snug and bend over two fins each way on the lock washer. There is no adjustment on ring gear and pinion.

### CHASSIS DIAGRAM

Q—Publish chassis diagram, together with engine of Jeffery Chesterfield Six.

2—How can the steering wheel be tightened on this model?—Arthur J. Hall, 991 7th St., Appleton, Wis.

1—A diagram of the chassis of the Jeffery Chesterfield Six is shown in Fig 10.

2—The steering gear used on this car is of the worm and gear type. The gear is mounted on the square bell crank shaft. This permits bringing a new quarter in contact with the worm when slight wear takes place. There is also an eccentric bushing around the bell crank shaft which can be adjusted by means of a spanner wrench so as to bring the teeth into closer mesh. To take the endwise play out of the worm remove the small cap at the bottom of the gear and remove the proper amount of shims to provide a good adjustment.

We believe that the looseness of the bell is caused by wear of the gear and it would be advisable to turn the gear around so that a new portion will make the contact. It is to be remembered that poor steering action may be due to a slight amount of wear on all parts of the steering mechanism.

## *Chassis Oiling Diagram of Jeffery Six*

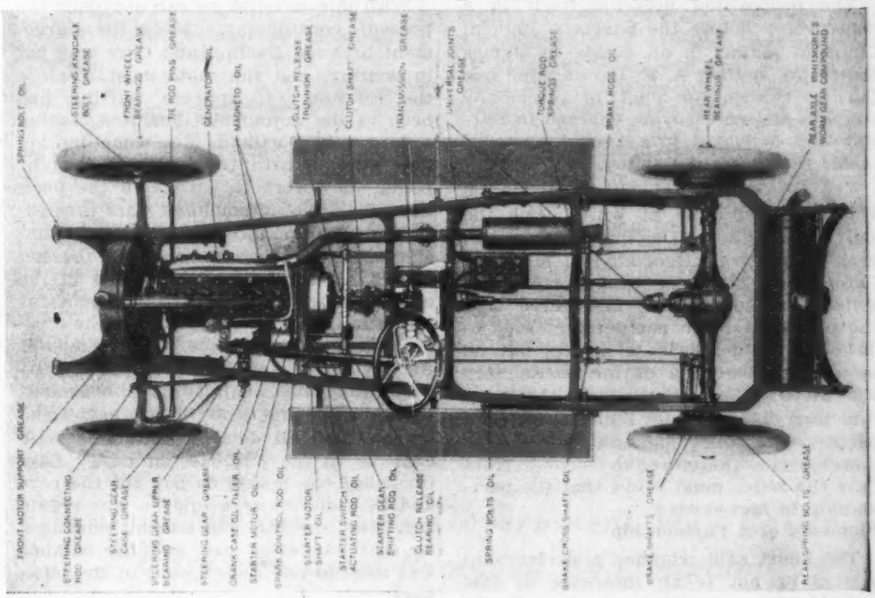


Fig. 10

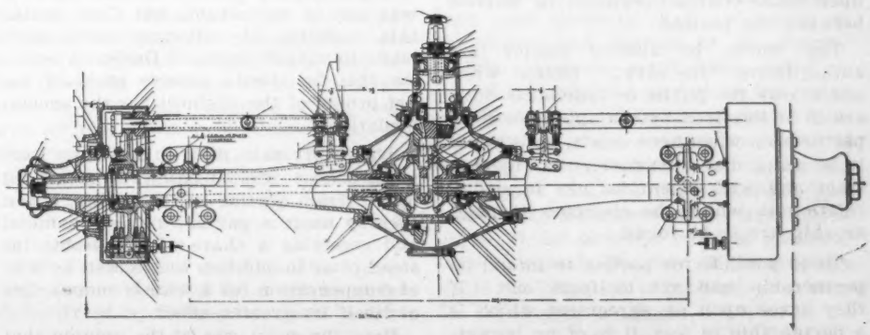


Fig. 11—Rear axle assembly of the Templar

# Law in Your Business

By Wellington Gustin

# What Establishes Partnership?

## *Where No Contract Has Been Entered Into Sharing of Profits Does Not Constitute Responsibility for Acts of Company*

WHETHER a partnership exists is not always easily ascertainable. The partnership relation between co-partners rests upon contract, but parties, not partners as between themselves, may assume such relation as concerns their dealings with the public, or third parties.

The proposition presents itself in a controversy before the Supreme Judicial Court of Maine, in an action by James Bailey Co. against A. E. Darling and one Carr to recover for a bill of automobile supplies and accessories, charged to Darling and delivered to a garage operated under the name of Darling.

The property was delivered between February and June at which time the seller did not know Darling and Carr had been in any way associated in business. Later Darling became bankrupt and the seller claimed to have discovered that the parties were in partnership prior to dates of the deliveries of goods, but no notice of dissolution of the partnership was given. Under these facts the court said Carr did not hold himself out as a partner, the seller had not been misled thereby and, therefore, to recover from Carr the seller must prove that the partnership in fact existed.

**Elements of a Partnership**

The court said whether a partnership existed or not is an inference of law from the facts; and the relation is based upon some contract, express or implied between the parties.

The words of Justice Cooley are authoritative. He says: "Except when one allows the public or individual dealers to be deceived by the appearances of partnership when none exists, he is never to be charged as a partner unless by contract and with intent he has formed a relation in which the elements of partnership are to be found.

"It is possible for parties to intend no partnership and yet to form one. If they agree upon an agreement which is a partnership in fact, it is of no importance that they call it something else, or that they even expressly declare that they are not to be partners. The law must declare what is the legal import of their agreement, and names go for nothing when the substance of the agreements, show them to be inapplicable."

With this in mind we can approach the present controversy. Here the agreement between Darling and Carr was not in writing, and the facts must disclose the relation. It appears Darling had been in the automobile business, having a garage in Portland, Me., sometime before he made arrangements with Carr by which they were to engage in the business of selling automobiles, Carr furnishing money to finance the business in consideration of receiving one-half the net profits. A salesroom was leased in the name of Darling, but Carr stood good for the rental, which was paid from the business as other expenses. The Chandler Agency was taken in the name of Darling, the business carried on in his name, the bank account stood in his name, and he managed all details, conferring with Carr as to the purchase of cars. Carr furnished the money to pay for the cars and as each one was sold he was repaid from the proceeds the amount advanced on that particular car, and the balance was used to pay the expense of the business.

The company contended this relation was one of partnership but Carr denied this, claiming his advances were loans made in consideration of Darling's promise that he should receive one-half the net profits of the business for the accommodation.

The court said that an agent or servant, whose compensation is measured by a certain portion of the profits, is not thereby made a partner in the business, and receiving a share of the profits instead of or in addition to interest, by way of compensation for a loan of money, has of itself no greater effect.

Here the court was of the opinion that Carr was not a partner, but was a money lender, who having optimistic views of profits derived from the automobile business was willing to measure his compensation for the accommodation by a share in the profits. Where the money advanced is to be repaid in all events without regard to the profits, there is no partnership; to have that effect, the payments must depend upon the profits.

In a partnership of this kind under consideration there must be such a common interest present that the parties "mutually principals of and agents for each other with general powers within the scope of the business," subject, however, to the limitation of those powers, as between the parties involves a community of property as well as of profits, from which "arises the right of each partner to make contracts, incur liabilities, manage the whole business, and dispose of the whole property of the partnership, for its purposes, in the same manner and with the same power as all the partners could when acting together," with the right of the survivors upon the death of a partner, to retain and dispose of the partnership effects for the settlement of its affairs.

**Must Have Executive Interest**

For one to become liable as a partner through sharing in the profits of a business, he must have a proprietary interest in each dollar of profits as it is earned, so that he then has a right of possession or control of it for the purpose of retaining his share. This involves an ownership of an interest in the business that produces the profits.

The court found the right of Carr to a share of the profits was a personal debt of Darling, Carr was not a principal and had no control over the business; and they clearly did not intend to establish a partnership. In the absence of proof that Carr held himself out as a partner, he cannot be held as a partner by operation of law, said the court.

# CLAIM ON MORTGAGED CAR

DURING the past year we have done work on and installed parts in a car the amount of $80. The owner of this car is unable to pay the bill and there is a $100 mortgage on it which is all the car is worth in its preseent condition. In view of this mortgage, is there any way in which I can get a claim on it?—Emery V. Bailey Garage, Mt. Aubur, Ill.

Since 1917 garage keepers in Illinois have been given a lien by state "upon any motor vehicle, parts and accessories thereof kept by them for the proper charges due for the keeping thereof, the repair thereof, the materials furnished thereto, and the expenses bestowed thereon at the request of the owner, or the person having the possession thereof; **provided,** that such a lien shall not apply to motor vehicles, parts or accessories sold on conditional sale while the vendor remains unpaid; and, **provided further,** that the contract of sale or mortgage of the conditional vendor has been filed for record in the recorder's office in the county in which said sale takes place, before any lien sought to be enforced under this Act attaches." (Sec. 7182, Garage Keeper's lien, Call Ill. Laws, 1917-1920).

To enforce this lien the statute gives the garage keeper a right to replevin the automobile or part "in any court of competent jurisdiction within the State of Ill., * * * and thereby seize and secure the possession of said motor vehicle, parts or accessories thereof, wherever the same may be found within the jurisdiction of the Court issuing said writ, **provided,** that said motor vehicle, parts or accessories have not been sold to a bona fide purchaser and when he shall have so obtained the possession thereof he may hold the same for the enforcement of said lien in the manner as in this Act hereinafter provided such action shall be instituted within three months after the said lien attaches to said motor vehicle, parts or accessories thereof."

Then the Act provides for enforcement of the lien by a sale of the property by giving the owner 10-day notice of sale.

You will see your rights to replevin and regain possession of the car is limited to three months after your lien attaches.

I have seen no decisions under this statute, but under the common law lien prevailing in Illinois prior to 1917, date of this new Garagekeeper's Lien law, a prior recorded mortgage took precedence over lien for repairs, storage, etc.

Though you have time remaining in which to assert your lien, yet you may find this throwing good money after bad should the car prove to be worth no more than the mortgage lien.

## Signature on Corporation Contract

In case of a contract between a company in Indiana and ourselves, contract signed and dated in Indiana by the company as party of the first part, what officer of the company must sign the contract to make it binding?—Eberthart & Sons, Sorum, S. Dak.

Generally the contract should be signed by the president of the corporation, and it is the better practice for the secretary also to sign. However, signature of the corporate name by the secretary long has been held sufficient, where the contract is under seal. The seal of the corporation on a contract raises the presumption that the officer signing has authority so to do.

Any simple contract may be signed by other officers of the corporation where they were authorized to bind it, at least where the company's charter or by-laws do not prescribe otherwise who shall sign.

If the corporation denies the authority of certain officers to sign a contract, the other party to such contract must furnish some evidence of the authority of the officers to sign, where the contract is not under seal.

Often the general manager is an officer having full authority to bind the corporation. One Indiana case says the corporation will be bound by contracts of officers acting within the line and scope of their office. I find nothing in the Indiana Corporation Act to change the principles laid down above.

## Tell Us Your Legal Problems

*SEEMINGLY knotty legal problems are constantly arising in the dealer's business, which even a slight knowledge of the law easily may solve. MOTOR AGE presents here the most common legal problems which confront the dealer. Mr. Gustin, a member of the Chicago bar, not only is well versed in the law relating to the dealer, but presents it in such a way as to be readily understood by the layman. In addition to his articles, Mr. Gustin will gladly answer such individual inquiries on knotty points as may be submitted to him.*

## Minor Held Responsible

Q—A minor, also the brother of the car owner, who stores his car in our garage, took his brother's car out some time ago and through carelessness ran into our gasoline pump and completely demolished same. We wish to know whether the car owner can be held responsible for such damage or whether the minor can be held responsible and be compelled to pay damages?—Ober Garage, Caldwell, Kan.

A minor is held responsible for his own wrongs. You can hold him for his carelessness. The car owner can be held responsible if the brother was acting as his agent or servant at the time of the accident. If the brother had borrowed the car, then the owner is not responsible, unless the owner knew the boy to be an incompetent driver.

## Contributory Negligence Bars Recover

IN the case of a collision between automobiles going in opposite directions the jury was instructed that the plaintiff could not recover unless he proved by a preponderance of evidence that he was not guilty of negligence "that contributed to the accident in the least degree." The plaintiff objected that this is an erroneous statement of the law, but the Supreme Court of Vermont, in overruling this objection in the case (Bianchi vs. Miller, 111 ATL 524) said the rule in Vermont has long been established that there can be no recovery if the negligence of the complaining party contributes in the least degree to the accident.

Further, it was said that in an action for damages to the plaintiff's automobile in a collision with defendant's automobile, the important question in the controversy both as to defendant's negligence and plaintiff's freedom from negligence are facts for the jury to determine.

## *Automobile Seized by Government May Be Released on Bond Provided By Claimant*

AN automobile having been seized by the U. S. Marshal under a warrant of arrest, and held for condemnation and forfeiture through having been used by one Green in the removal and concealment of liquors in violation of the Federal article, another claiming to be its true owner filed a petition for its release and delivery to him. The U. S. District Court granted this request upon the claimant executing a proper bond covering the car's value.

The Federal law provides that property taken or detained by an officer under authority of a revenue law shall not be replevined in his hands. The law further says such property shall be subject to the orders and degrees of the Federal Courts. And the court here said it is one of the inherent powers of the court, established upon motives of public convenience, to allow a claimant of seized property to substitute an equivalent security in place of the property. This avoids not only unnecessary injury to the owner of the property but also unnecessary expense in the care of the property while the litigation is pending, as reason for the court's holding.

# COMING MOTOR EVENTS

## Automobile Shows

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|---|---|---|
| Baltimore | Annual Automobile Show | Jan. 22-29 |
| Holyoke, Mass | Annual Automobile Show | Jan. 22-29 |
| Cleveland | Annual Automobile Show | Jan. 22-29 |
| Montreal | Nat'l Motor Show of Eastern Canada | Jan. 22-29 |
| Amsterdam, N. Y. | Annual Automobile Show | Jan. 23-29 |
| Columbus | Automobile Show | Jan. 24-29 |
| Lawrence, Mass | First Annual Show | Jan. 24-29 |
| New Bedford, Mass. | Automobile Show | Jan. 25-29 |
| Chicago | Automobile Salon | Jan. 29 |
| York, Pa | Annual Automobile Show | Jan. 29-Feb. 6 |
| Chicago | National Passenger Car Show | Jan. 29-Feb. 5 |
| Allentown, Pa | Annual Automobile Show | Jan. 29-Feb. 12 |
| Lehigh, Pa | Annual Automobile Show | Jan. 29-Feb. 12 |
| Hudson, N. Y. | Annual Automobile Show | Jan. 30-Feb. 5 |
| Oakland, Calif. | Automobile Show | Jan. 31-Feb. 6 |
| London, Ont. | Nat'l Motor Show of Western Ontario, | Jan. 31-Feb. 5 |
| Madison, Wis. | Annual Automobile Show | February |
| Erie, Pa | Annual Automobile Show | February |
| Roanoke, Va. | Annual Automobile Show | February |
| Paterson, N. J. | Annual Automobile Show | February |
| Amarillo, Texas | Annual Automobile Show | February |
| Bucyrus, Ohio | Annual Automobile Show | Feb. 2- 5 |
| Tampa, Fla | Annual Automobile Show | Feb. 3-12 |
| Minneapolis | Annual Automobile Show | Feb. 5-12 |
| Newberg, N. Y. | Annual Automobile Show | Feb. 6-12 |
| St. Louis | Passenger Car Show | Feb. 7-12 |
| Bridgeport, Conn. | Annual Automobile Show | Feb. 7-12 |
| Rochester, N. Y. | Automobile Show | Feb. 7-12 |
| Reading, Pa. | Automobile Show | Feb. 7-12 |
| Yonkers, N. Y. | Automobile Show | Feb. 7-12 |
| Tulsa, Okla. | Annual Automobile Show | Feb. 7-12 |
| Bucyrus, Ohio | Crawford County Automobile Show | Feb. 9-12 |
| Hartford, Conn. | Annual Automobile Show | Feb. 12-19 |
| Kansas City, Mo. | Annual Automobile Show | Feb. 12-19 |
| Fitchburg, Mass. | Automobile Show | Feb. 12-19 |
| Winnipeg | Western Can. Automotive Equip. Show | Feb. 14-19 |
| Trenton, N. J. | Annual Automobile Show | Feb. 16-19 |
| Ottawa, Ill. | Automobile, Truck and Tractor Show | Feb. 17-19 |
| San Bernardino, Cal. | Annual Automobile Show | Feb. 18-28 |
| Albany, N. Y. | Annual Automobile Show | Feb. 19-26 |
| San Francisco | Automobile Show | Feb. 19-26 |
| Pittsfield, Mass. | Annual Automobile Show | Feb. 20-26 |
| Grand Rapids, Mich. | Automobile Business Association | Feb. 21-26 |
| Louisville, Ky. | Automobile Show | Feb. 21-26 |
| Deadwood, S. D. | Annual Automobile Show | Feb. 21-26 |
| Salt Lake City | Automobile Show | Feb. 21-26 |
| Galesburg, Ill. | Annual Automobile Show | Feb. 22-26 |
| Binghamton, N. Y. | Annual Automobile Show | Feb. 22-26 |
| Malone, N. Y. | Annual Automobile Show | Feb. 23-26 |
| Clinton, Iowa | Sixth Annual Automobile Show | Feb. 23-26 |
| Newton, Kan. | Annual Automobile Show | Feb. 23-26 |
| Bloomington, Ill. | Automobile and Tractor Show | Feb. 23-26 |
| Buffalo, N. Y. | Annual Automobile Show | Feb. 26-March 5 |
| St. Joseph, Mo. | Automobile Show | Feb. 28-Mar. 5 |
| Muskegon, Mich. | Automobile Show | Feb. 28-March 5 |
| Columbia, S. C. | Annual Automobile Show | March |
| Schenectady, N. Y. | Automobile Show | March |
| Quincy, Ill. | Automobile Show | March 1 |
| Wilmington, Del. | Automobile Show | March 1-5 |
| Wichita, Kan. | Annual Automobile Show | March 1-5 |
| Des Moines | Open Car Show | March 2-5 |
| Brooklyn | Automobile Show | March 5-12 |
| Atlanta | Automobile Show | March 5-12 |
| Des Moines | Closed Car Show | March 7-10 |
| Indianapolis | Automobile Show | March 7-12 |
| Springfield, Mass. | Annual Automobile Show | March 7-12 |
| Scranton, Pa. | Passenger Car Show | March 7-12 |
| Syracuse, N. Y. | Annual Automobile Show | March 7-12 |
| Newark, N. J. | Automobile Show | March 12-19 |
| Boston, Mass. | Annual Show | March 12-19 |
| Omaha, Neb. | Annual Automobile Show | March 14-19 |
| Greenville, S. C. | Automobile Show | March 16-19 |
| Torrington, Conn. | Annual Automobile Show | March 20-26 |
| Chattanooga, Tenn. | Annual Automobile Show | April |
| Bridgeton, N. J. | Annual Automobile Show | April 2-9 |
| Gloversville, N. Y. | Annual Automobile Show | April 3-9 |
| Seattle | Automobile Show | April 4-9 |
| Buffalo | First Annual Motors and Sportsmen's Show, | Apr. 11-16 |

## Tractor Shows

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|---|---|---|
| Columbus, Ohio | National Tractor Show | Feb. 7-12 |
| Scranton, Pa. | Truck & Tractor Show | March 14-17 |

## Foreign Shows

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|---|---|---|
| Delhi, India | Delhi Motor Car Show | Feb. 9 |

## Conventions

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| Chicago | N. A. D. A. Annaul Meeting | Jan. 31-Feb. 7 |
| Chicago | Automotive Elec. Service Assn | Feb. 2-4 |
| Salt Lake City | Intermountain Automotive Trades Assn | Feb. 24-25 |

## Races

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|---|---|---|
| Indianapolis Sp'wy | 500 Mile Race | May 30 |
| Strasbourg | French Grand Prix | July 23 |

## Business Notes

The Dart Truck and Tractor Corp. at its annual meeting elected the following officers: C. C. Wolf, president; W. H. Johnson, first vice president in charge of engineering; M. D. Herron, second vice president in charge of sales; G. J. Bondurant, secretary and treasurer. In addition to Messrs. Wolf, Johnson and Herron directors elected follow: S. Y. Eggert, E. L. Stover, William Galloway, and H. W. Hileman. The reports submitted by the officers show the corporation still in limited production and with prospects for 1921 business exceptionally promising.

The General Motors Corp. has bought an entire city block at Saginaw, Mich., almost adjacent to the Jacox plant which is a General Motors unit and which makes steering gears. While for the time being it is not expected that anything will be done to the new property, the site will eventually be used for the erection of a large addition to the Jacox plant.

No changes were made in the officers or directors of the Union Motor Truck Co. at its annual meeting at Bay City, Mich. During the past year earnings were such as to enable the company to pay charges and dividends on its preferred stock and to leave a surplus over all liabilities.

The Simplex Wire Wheel Co., Cadillac, Mich., has re-elected the old board of directors and officers: President, J. P. Wilcox; vice-president, W. E. Curry; secretary-treasurer, J. C. Ford. The other directors are J. B. Wagner, W. A. Kyser, C. B. Smith, C. A. Saunders, George J. Sandel and C. F. Williams. The concern moved to Cadillac from Detroit where it was known as the Kolben Wheel Co.

The Service Motor Truck Co. of Wabash, Ind., has purchased fifty acres of ground in London, Ont., and expects to build workshops for the manufacture of motor trucks in the Spring.

A dividend of $10 a share on the common stock payable Feb. 1 has been declared by the Nash Motors Co. A regular quarterly dividend of $1.75 on the preferred also has been declared payable on the same date. In a letter to stockholders, president C. W. Nash, says that sales for the year amounted to more than $57,000,000 or nearly $10,000,000 more than the preceding year. The company produced 37,263 passenger cars and 3848 trucks.

The Studebaker Corp. turned out 52,000 motor cars in the year ending Dec. 31. Its best previous production was 38,300 cars in 1919. The company reports that the total of unsold cars on hand is only 1600 or about two weeks supply. Both the South Bend and Detroit factories have resumed operations on the basis of an output of 800 cars a week equally divided between the two plants. The company will devote its efforts exclusively to the manufacture of automobiles having disposed of its old farm wagon business to the Kentucky Wagon Co., of Louisville, with the right to use the Studebaker name for two and a half years.

The Presto-O-Lite Co. has bought a tract of land comprising rather more than one city block in New Orleans and announces that it will commence erection of a factory immediately.

### *Pedestrians Give It Plenty of Room*

A wind wagon has made its appearance on the streets of Paris. The machine has a very light frame, a totally enclosed body, a 3-cylinder air cooled engine in front and a two-blade screw with a guard around it. The machine has been used on the crowded streets of Paris and seems to handle as well as the more conventional type of automobile